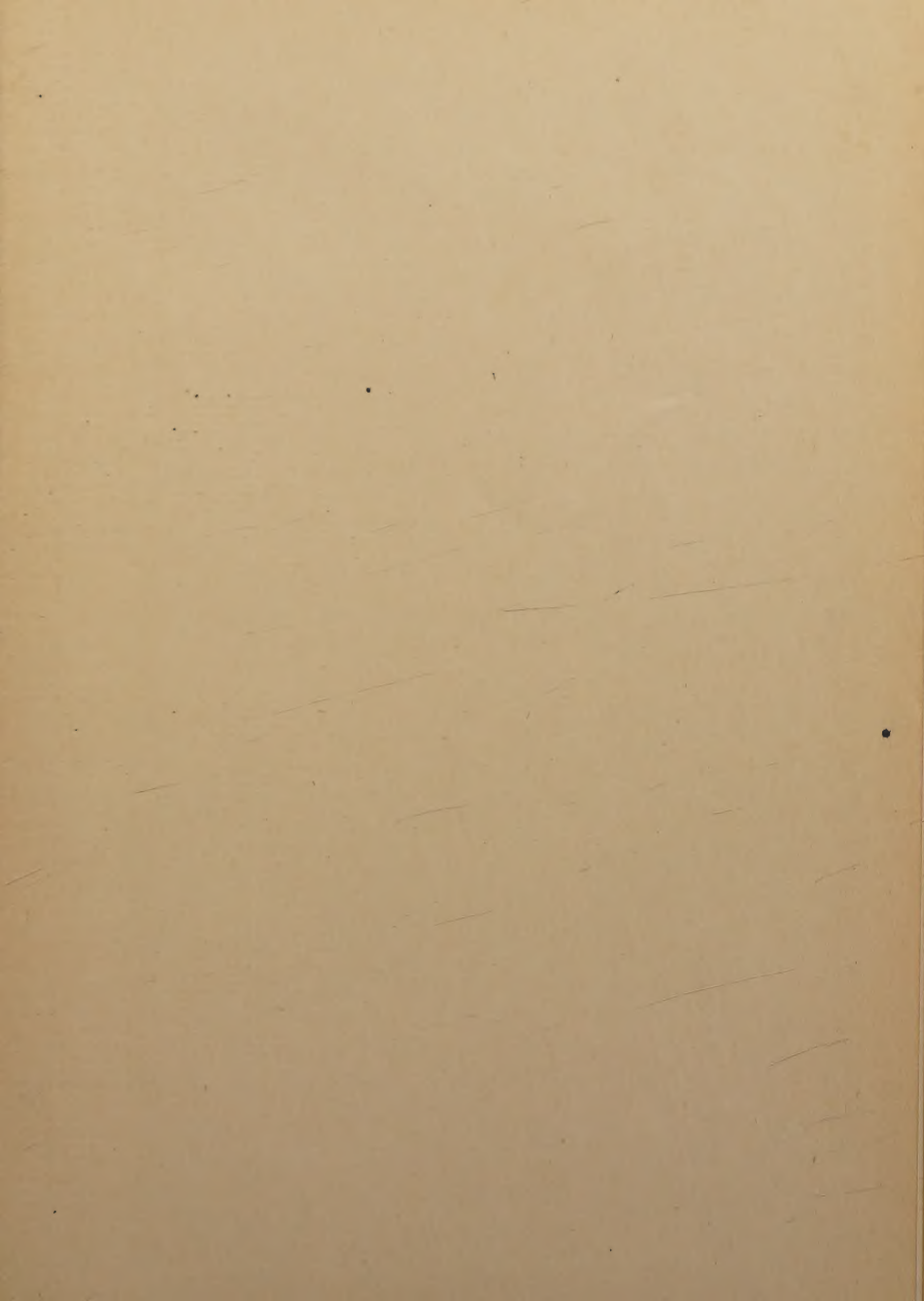




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THE INDIVIDUAL PUPIL

IN THE MANAGEMENT OF CLASS AND SCHOOL

BY

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EDITOR'S INTRODUCTION

The schools of a democracy should offer to each pupil those unique opportunities for acquiring skills, for practice in precise thinking, and for growth in power of appreciation which are attainable by one of his intelligence. This ideal requires that we adjust our standards to the abilities of our pupils. Every pupil in the ideal school system is judged by the best which he can do and not by the median performance of a non-selected group.

In order to adjust our schools to the needs of individual boys and girls, our curricula and courses of study must be markedly different for groups of children who vary in ability. We may not rest satisfied with the provision of special opportunities for the feeble-minded, the physically handicapped, and the morally delinquent. It is important that adjustments be made in terms of the varying abilities, achievements, and environmental conditions of children all along the line. It is of surpassing importance to provide facilities which will stimulate the most able children to the attainment of their fullest intellectual development.

Our schools have begun to attack this problem. Further progress is dependent upon the more complete diagnosis and guidance for each pupil enrolled in the schools. In this volume, Dr. Mort presents the best that has been accomplished in our schools, as well as suggestions for the improvement and development of our practices in caring for the needs of individuals. The teacher who masters the methods which he presents will get the satisfaction which comes to those who practice the fine art of teaching.

GEORGE D. STRAYER

PREFACE

This book deals with the problems arising in our schools from the individual needs of the boys and girls. Every boy and girl at more or less frequent intervals demands attention as an individual. This is a fact that has been long recognized. It was brought to my attention as a young teacher by Dr. Strayer's book *A Brief Course in the Teaching Process*. In my copy of this book purchased in the second year of my teaching I find the following underlined:

When pupils all work together it is not expected that all will be able to do an equal amount of work. It is especially important that provision be made for the brighter members of the class, in order that they may have enough work to keep them active and alert. It too often happens that in large classes the work is scaled down to meet the ability of the poorest half of the class, in consequence of which the brighter pupils learn to loaf and tend to lose interest in school work. However many groups the class may be divided into, there will always be the necessity for individualizing the children of each section. The brighter ones must be given assignments which are beyond the ability of the less capable, while a minimum of achievement must be accepted when it represents the best effort and means the continued development of the pupil who is weaker intellectually.

Good teachers provide for individual needs, not only by grouping their classes on the basis of their ability, but also by giving individual instruction. No daily program should fail to provide a period during which the teacher can devote herself to the needs of those individuals who need special help. It may be to help the boy or girl who has been absent on account of sickness, to explain a difficult problem in arithmetic, to help in the interpretation of a map or diagram, or to teach the pupil how to study; always there will be plenty for the teacher to do who thinks of her pupils as individuals during the half hour or more devoted to individual instruction.¹

The subject of this book is fairly well defined by these two paragraphs.

¹ From Strayer, G. D., *A Brief Course in the Teaching Process*. By permission of The Macmillan Company, publishers.

To-day there is a possibility of confusing individual needs with the much discussed topic of individual differences. Individual differences constitute but one of the parents of individual needs. The other parent is social requirements. Individual differences in characteristics not developed by education do not give rise to individual needs in school. There are differences in that most useless of abilities — ear wiggling, but such differences do not, as a general rule, result in individual needs within the classroom. To result in individual needs, there must be social implications. There may be a special demand for a common level of achievement in arithmetic computation. The fact that pupils differ in their rate of learning this subject results in individual needs. Society may demand that knowledge or ability in a subject vary with native ability. In this case the individual needs take the form of differences in subject matter or in methods of teaching. Or society may place a premium on the development of a special talent, as for example, musical ability. This may result in a need of marked variation in curriculum content.

Chapters I to VII deal with the manner in which individual needs may be met by the classroom teacher with a minimum of outside assistance. Chapters VIII, IX, and X deal with services that can be performed and organization that can be developed which will not only make possible the lightening of the load of the classroom teacher in meeting individual needs, but will in addition make possible the meeting of individual needs that call for a service more technical in nature than the classroom teacher may be expected to render.

Throughout the book, the discussion is in terms of actual children selected from several states. Extensive problems are given at the end of each chapter. They make possible the application of the reader's learning to concrete situations. They will be found to be particularly valuable for group discussion or for instructional purposes. The bibliography has been chosen with two purposes in mind. Specific references are given to

books that have bearing upon the problem, in order that the reader may readily obtain the judgment of other writers who have considered the problem from a general viewpoint, and references are given to magazine articles, many of which are descriptions of practice, or results of experimentation in actual situations.

I am indebted to a host of people who have contributed through their classroom experience or their researches to the problems discussed in the various chapters. The students in School Administration who have worked in my classes at Teachers College have contributed out of their rich and varied experience. Many of the classroom teachers with whom I have had the privilege to work, particularly those who have seriously attacked the problem of teaching their groups of youngsters as individuals, have been an inspiration.

I am indebted to the Bureau of Publications, Teachers College, Columbia University, for permission to reproduce material first published in city school Surveys made by the Division of Field Studies, Institute of Educational Research, Teachers College.

Dr. John Granrud, Assistant Superintendent of the Springfield, Massachusetts, Schools, read the manuscript and gave many valuable suggestions. Professors N. L. Engelhardt and Carter Alexander have given sympathetic assistance throughout the period during which I have worked upon the organization of this field.

The suggestion that this book be written and the encouragement to its completion came from George Drayton Strayer. If there were some way to trace the influences of this master workman, first through his writings, next through his instruction, and most recently through his personal counsel, much of whatever has merit in this book would likewise be found to come from him.

Finally I wish to express my indebtedness to my wife, whose assistance throughout has been invaluable.

PAUL R. MORT

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ILLUSTRATION 1
TWO FIRST-GRADE CLASSES IN THE SAME CITY
GROUP A



GROUP B



(Facing 17)

THE INDIVIDUAL PUPIL

PART I

THE PROBLEM

CHAPTER I

EQUALITY OF EDUCATIONAL OPPORTUNITY AND THE CLASSROOM TEACHER

THE fundamental attitude toward education in America expressed in the phrase *equality of educational opportunity* has been one of the great influences in the development of our public schools. This attitude had its origin in the educational policies of the Puritan colonies of New England. Laws were passed by the Massachusetts General Court in 1642 and 1647 requiring universal education in the colony of Massachusetts Bay, and the Massachusetts example was very shortly followed by the colony of Connecticut. Long after the distinctly religious purpose of the establishment of schools had ceased to be regarded as paramount, the descendants of these early New Englanders were found to be zealous supporters of the principle of public education.

Changing demands of the principle of educational equality. — The nineteenth-century development of a democracy that accepted the equality of individuals as fundamental, gave impetus and new purpose to the early New England attitude. The demand for a literate citizenry on the one hand, and the growing regard for the individual on the other, offered a cause to which all men could subscribe. It is not surprising that *equality*

of educational opportunity became the watchword in the great struggle for universal tax-supported education. It is not surprising that this watchword every year demonstrates its power to rally the support of men of all creeds and of all parties to the development of public education. In spite of the great influence of this educational ideal, however, there were until recently but few attempts to catalogue the demands it makes upon public education. The growth of this concept, resulting in the gradual expansion of the public schools, was more or less unconscious.

Recently, however, there has developed a need of guiding rules to interpret the ideal of equality of educational opportunity. This has resulted from the multiple demands made upon education by rapid changes in our national life. This need is accompanied by a greatly increased interest in the scientific solution of educational problems on the part of the teaching profession. As a result the last few years have seen the first attempts to develop systematically the demands which equality of educational opportunity makes upon every aspect of the educational system. What was too long only a useful slogan, inadequately expressing a fundamental attitude of the public, is becoming a set of well defined demands upon every one concerned with the task of public education.

Two influences have contributed to the elaboration and clarification of the demands which the principle of equality of educational opportunity makes upon the classroom teacher. One influence is the growth in the knowledge of individual differences, — a growth due to the development of educational psychology and educational tests. The other is the increased demands made upon education by the growing complexity of our civilization.

The study of individual differences. — The hand-in-hand development of educational psychology and educational tests has resulted in the accumulation of a wealth of information on the differences among individuals in abilities, aptitudes, and

interests. Many of the facts disclosed challenge even the procedures of the schools that have the most traditional ideals. We may no longer ignore the fact that some children can never succeed in ordinary school work, or that children with low ability in ordinary school work may be able to work successfully in a different type of educational curriculum. We may no longer disregard the fact that children vary greatly in their need of instruction, and of time spent in drill, in mastering the very processes in arithmetic that were important parts of the school curriculum of their grandfathers. We are needlessly inefficient if we ignore the fact that the teaching of reading is the teaching of several skills rather than a single skill.

The differences of educational significance among the members of the classes shown in Illustration 1 (facing page 17) will serve to illustrate how this discussion applies to the classroom teacher.

A first-grade teacher employed in any one of certain cities may face on the opening of school a group of pupils like either one of the groups pictured in Illustration 1. From the appearance of these two groups, how different should you judge the tasks to be in the two situations? You can see differences in clothing, in size, in attitude, and in size of class. But what educational significance have these differences? Would the teacher's procedure be different in two such groups? Could he attack the problems as effectively in the one case as in the other?

A little inquiry concerning the pupils in Group A led to the discovery that many of them came from homes in which the English language was not spoken. Most of these children did not know the English names of many of the common things about them. So far as most of them knew, they had never seen a "sparrow," a "bird's nest," or a "table." So far as they were concerned, they were in a foreign school taught by teachers in a foreign tongue. They were strangers to much that was a part of the everyday life of pupils shown in Group B of Illustration 1. This, we see, is a difference of deep educational significance.

Most teachers, trained to deal with groups like Group B, find themselves at a loss to know what to do with such a group as Group A.

If we were to investigate further, we should find even in such happy youngsters as those in Group B differences that challenge the teacher as much as any of the differences noted. One boy in this group, for instance, is an example of boys who, if they are not better cared for than many like him who have gone before, will in six or seven years be in the position of the large boys in Illustration 3, facing page 33. The treatment of these boys will be so inadequate that they will be left back again and again, and in seven or eight years they will be struggling along with boys and girls three or four years their juniors.

As boys and girls progress through school, other differences make their appearance. Health, retardation due to absence, and differences in appeal of school work and in abilities lead to great differences of achievement along any one line. Social maladjustments and the influence of different home environments enter to complicate the problem of educating boys and girls. When pupils have been in school a half dozen years, the need of vocational guidance arises and the need of educational guidance becomes more acute. What lines of educational work shall boys and girls follow? How well fitted are they in abilities such as reading and expression to go on with these tasks? How can the teacher make up for weak points in the teaching plans of the past half dozen years? What allowances must be made in the English class for pupils lacking in ability to express themselves, or for pupils of exceptional abilities along these lines? What adjustments must be made in science or history classes for differences in ability to read carefully?

Our schools are too prone to leave the discovery of these important differences to chance. The low-ability pupil is too frequently discovered only through repeated failure. Instead of being led to master work of which he is capable, he is taught

to fail. The high-ability pupil is too often considered but little above mediocrity because the very fact that he does not need the ordinary types of school work leads him to neglect the lessons assigned to him. Frequently, as a result, failure, maladjustment, or poor work habits are substituted for exceptional educational growth.

Writing of this problem, Terman makes the following indictment of present-day methods:

The present neglect of superior talent is sufficiently indicated by the inability of teachers to recognize it. One of the most astonishing facts brought out in this investigation is that one's best chance of identifying the brightest child in a schoolroom is to examine the birth records and select the youngest, rather than to take the one rated as brightest by the teacher.¹

Thus differences of all sorts must be systematically discovered, charted, and used to the best advantage in each pupil's development. Each pupil should be trained to take the most effective part of which he is capable in the groups of which he is to be a member.

Growing complexity of our civilization. — The movement that has brought to our consciousness the existence of marked individual differences has been accompanied by awakening in another direction. Those interested in public education — school people as well as the public at large — have come to realize that the increasing complexity of our civilization is making demands upon education that cannot be met by the simple educational scheme that served a more simple state of society. If we take the need of developing mental powers alone, it is apparent that the more complex civilization is, the greater are its demands upon education. In a society that was largely agricultural, with very little of the complex in government, in manufacturing, in transportation, in the development of the

¹ Terman, L. M., *Genetic Studies of Genius*, Volume I, page 640. Stanford University Press, 1925.

related arts and sciences, society did not demand the use of special aptitudes in anywhere near the same degree as it does at present. The percentage of complex pieces of work that demanded specialized aptitudes and carefully developed skills of a unique nature was comparatively small. The result was that civilization demanded little more than ability to read, write, and make simple computations.

The complexity of present-day life in America is such that there is need to discover and train special abilities and aptitudes in every walk of life.

The long-accepted principle that democracy demands equality of opportunity has therefore taken upon itself a new meaning. At an earlier time, its demands were more or less legitimately met by offering the same opportunities of a limited type to all. To-day, an equal consideration for the needs of the individual and of society demands that *equality of educational opportunity* be interpreted to demand that each individual have an equal opportunity for the development of his abilities and aptitudes for happy and successful living in our modern society.

The responsibility of the classroom teacher. — Much can be done to help the classroom teacher meet the newer demands of equality of educational opportunity, but the success or failure of any unit of the educational system depends ultimately upon him. This book points out ways and means of analyzing the needs of boys and girls as individuals and of meeting these needs. It indicates those places where an alert administration of the schools can lighten the teacher's burden. It does not indicate any means by which the responsibility of the classroom teacher for the proper development of his pupils can be escaped. However his work is carried on from day to day, the results that he looks back upon must be individual results. His success will be measured only in terms of his ability to meet the demands of the great principle that lies at the root of our democracy by making his school a school for individuals.

Writing of the steps that are being taken in one way or another toward the meeting of this demand, Carleton Washburne says:

Already one can begin to see the day when each child will be recognized as a living human being, differing by right and by necessity from every other human being — differing in his needs, differing in the contribution he can make to mankind, yet a member of the human organism, who must coördinate his life with the lives of his fellow members.¹

The problem that this presents to the classroom teacher is in entire conformity with the attitude and spirit of good teachers everywhere. Even when schools operate under the general philosophy that identical opportunities for all children are sufficient, better teachers always have found their real interest in the development of boys and girls as individuals. Such teachers — and their number is legion — are welcoming in these newer demands of modern society a recognition of what has long appealed to them as the true purpose of education: not merely the mastery of skills and the accumulation of useful information, but over and beyond this, the development of each pupil in all his potentialities as a happy, contributing member of society.

PROBLEM 1

INADEQUATE GUIDANCE

The following case was presented by the teacher of a one-room country school as an example of a pupil who was well-known, was the only pupil in the 7th grade, but did not receive the educational treatment his needs demanded

Jack swept the schoolroom each evening, so we became particularly well acquainted. He was a bully on the playground, bright and energetic in school subjects, and particularly apt in drawing. Unlike most of my boys, he disliked farming. He had not formulated any definite idea of what he wished to follow as a

¹ National Society for the Study of Education, *The Twenty-fourth Yearbook, Part II*, pp. 131-132. Public School Publishing Company, 1925.

life work. High school, just ahead, took much of his attention. He looked forward to it with keen interest. We talked of it a great deal. We discussed the mysteries of Latin, the nature of English. But we marked out no definite purpose for the future. His high-school course would be the same as mine had been. There was no discussion of where the years might lead him. No abiding purpose was aroused.

The next year he went to high school. He did not get along well with the other boys and he obtained little sympathy from his teachers. He dropped out of high school before finishing his second year.

Assignment: 1. What was lacking in the treatment of this boy that would be demanded by the proper consideration of his needs?

2. Would your proposed treatment increase the chances of his remaining in high school?

3. Would a satisfactory junior-high-school organization automatically safeguard such a boy as this?

PROBLEM 2

INADEQUATE OPPORTUNITIES

The teacher referred to in Problem 1 gives a description of another boy in the same school, who presented a different problem. This boy is now an adult with no further formal education than that described.

Martin was a boy with big, brown, open eyes and a walk that bespoke considerable experience behind a plow. He was interested in farm life. He won the medal offered for the best ten ears of corn. All of his thirteen years was a compact lyric of the soil. He was good in his school work, clever in mischief, good-natured under punishment. He came to recitation one day effervescing with appreciation over "The Daffodils." Never before or since have I seen a boy so affected by a poem. Upon the last day of school he asked me for a print of the Colosseum that I had on the wall, choosing this in preference to the Horse Fair or a woodland scene or a Madonna. The next year he finished the eighth grade and dropped out of school.

- Assignment:* 1. List the shortcomings in this boy's education.
2. How might they have been corrected in spite of the fact that this boy lived in a sparsely settled rural community?
3. What demands other than mere occupational demands are made by our more complex modern civilization?
4. Do these demands apply to a boy who expects to live on a farm or in a small village?

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PART II

DISCOVERING AND MEETING INDIVIDUAL NEEDS UNDER TRADITIONAL CONDITIONS

CHAPTER II

PLACEMENT OF PUPILS WITHIN THE SCHOOL ORGANIZATION — THE ELEMENTARY GRADES

BEFORE a teacher attempts to discover the varying needs of the children with whom he must work, he may well ask whether or not any of the boys and girls assigned to him could pursue other lines of work to better advantage. If this question were asked and answered by teachers in all schools in America, there would be discovered hundreds of thousands of boys and girls whose programs would be entirely changed. The kindergarten and the first-grade teachers would find children who should be interchanged. Elementary-grade teachers would find some pupils who could work to better advantage in the pursuit of entirely different programs in the junior high school or in special classes. Teachers in junior and senior high schools would find pupils who for one reason or another are enrolled in courses which are markedly deficient in providing them with the sort of educational opportunity their needs demand.

It is true that the type of adjustment demanded is often one that cannot be met by the teacher without the coöperation of the administrative staff. This type of coöperation is not difficult to obtain. Teachers who gather the evidence that establishes the need of a change in pupil placement usually find school authorities willing to make the necessary adjustments. Of

course, any major modification in school organization may not be expected unless the number of pupils involved is great enough to justify such a change. However, boys and girls need many adjustments which demand no such significant change in school organization. The cumulative weight of discovered needs tends to bring about a school organization better fitted to the needs of boys and girls.

Kindergarten Placement

An elementary-school principal guided the writer into his kindergarten room. The boys and girls were obviously too old for kindergarten. Some doubt was expressed as to whether this really was a kindergarten group, but every assurance was given that there was no mistake. Upon further inquiry, it was discovered that this particular school system did not permit pupils to enroll in school until they had reached the age of six. Nevertheless, beginners were required to spend a half year or more in work designed for five-year-old children. Retardation for all these children resulted from an error of judgment as to the curriculum in which they should be placed.

It is unlikely that many teachers are called upon to face a situation as extreme as this. There are few kindergarten teachers, however, who do not face situations like it in some degree. Children are frequently discovered in the kindergarten who should have been passed into the first grade, regardless of how much they have mastered of the curriculum set for kindergarten children. The kindergarten teacher should therefore discover whether or not any of her pupils have attained the age that is commonly accepted as the best age for entering the first grade. All such children should be brought to the attention of the school authorities.

In an annual-promotion school, the most desirable age for entering the first grade is considered to be from five years and nine months to six years and nine months. That is, any pupil

ILLUSTRATION 2
A KINDERGARTEN CLASS WHICH INCLUDES SOME CHILDREN WHO SHOULD BE IN THE FIRST GRADE



(Facing 28)



six years of age prior to December 1 of the current year should be in the first grade during the fall term and not in the kindergarten. This is true in a semiannual-promotion school also. For the spring term, however, any pupil who becomes six years old prior to May 1 should be placed in the first grade.

Illustration 2 (facing page 28) is a picture of a class of kindergarten children taken in November. Those children who will be six years of age before December 1 should be passed on to the first grade. An examination of the records shows that five of the twenty-one children in this group should have been in the first grade.

To refuse such children the privilege of kindergarten because they have reached first-grade age may seem to be unfairly depriving them of opportunity. As a matter of fact, the failure to enroll such children a year earlier is the reason they are deprived of kindergarten opportunities. If the school has failed to attract the enrollment of these pupils at the kindergarten age, it has lost its opportunity. Such boys and girls have spent this year in less favorable environment than the kindergarten, perhaps, but the year is past. To take the time for kindergarten work now instead of spending it upon the first grade would result, in many cases, in depriving the children concerned of a year of work on a higher grade level. If a six-year-old spends a year in kindergarten and then progresses normally, he should have completed the ninth grade or its equivalent by the time he is sixteen. If he enters the first grade at once he will be able in the same time to complete the tenth grade or its equivalent. The choice, then, is between kindergarten now and some other grade later. The choice is made easier since kindergarten work is planned to fill the needs of children younger than he is, and does not promise full value to a six-year-old.

The contention may be raised that the year in kindergarten may make it possible to go through school more rapidly. This belief was formerly held by many teachers; but careful studies

have failed to confirm it. In some cases evidence favors this belief; in more cases the evidence opposes it. On the whole, it appears that the kindergarten must achieve results other than acceleration or a lasting improvement in the ordinary work of the regular grades as they are now organized. This statement does not in any way attack the kindergarten. To live the kindergarten year more happily may result in the long run in better health, better social habits, and better attitudes. We shall probably accomplish the best results in kindergartens by attempting to make them pay dividends in these fields to children fortunate enough to be enrolled in school at the kindergarten age.

Boys and girls who are mature mentally and socially may very well go into the regular grade work at an age younger than six years. In the schools that are attacking the problem seriously, these pupils are chosen by a combination of teacher judgments and intelligence tests. The more mature five-year-old children shown in Illustration 2 were given the Detroit First Grade Intelligence Test.¹ Two of them were discovered to have the mental maturity of the average first-grade boy or girl. Since the children tested were originally selected on account of their physical or social maturity, there is no reason why they should not be placed in the first grade.

It should not be concluded from this that immature six-year-old children should be retained in the kindergarten. Neither should they be expected to carry the regular first-grade work. Pupils who are distinctly dull should have the work planned to meet their needs from the very beginning. To hold them in the kindergarten is to conceal rather than to meet the difficulty. We cannot wait until these children attain the mental maturity necessary to attack successfully the normal curriculum in each grade, for if we do, much of the time given us to educate them will be lost in waiting. This policy, therefore, should be frowned upon from the very beginning of the school experience.

¹ Published by World Book Company

The kindergarten is rarely the place for any boy or girl who has attained the age of six.

Pupils too Old for the Elementary Grades

It is a common occurrence to find in the lower elementary grades pupils who are nearing the completion of the time which they will spend in school. Recently there has been considerable inquiry into the conditions that allow a boy or girl to reach only the fourth or fifth grade by the time he or she is fourteen years of age. Proposals are discussed in Chapter V on Retardation to prevent this from occurring. After cases caused by low ability have been cared for by such proposals, there would still be cases that occur because of neglect on the part of attendance service, or because of illness.

In the elementary grades the problem is particularly serious because here more than in the upper grades we have the problem of social adjustment. Since the graded school by and large divides children according to age, no exception should be made for the markedly overage boys and girls. They should be with children of their own age. When they are required to work with younger children, they tend to be social misfits.

This does not necessarily mean that older and younger children may not live and work satisfactorily together. There is plenty of evidence that they can get along successfully when it is the socially accepted thing. If the school is so organized that there is no marked tendency to divide children by age, there may be some points in favor of older and younger children working together. Some such claims have been made for the type of organization that houses all grades in the same building. Children seem to get along satisfactorily enough in families, where difference in age is the outstanding characteristic. This is also true to some extent in the one-room rural school.

In both these cases, however, difference in age does not result from difference in ability or individual success. This is in direct

contrast to the graded school. Here, similarity in success in school work leads to the association of children into groups of the same age. Difference in age is due either to outstanding success or to outstanding lack of success. Where the reason is lack of success in the activities of the school, the boy or girl concerned becomes a social misfit.

Boys and girls spend a large part of their lives in school. They respect its operation. It is not sufficient excuse to claim that the graded school never intended to make social misfits of unsuccessful children. Results must be considered. The operation of social disapproval cannot be ignored, whether school authorities are aware of it or not.

Serious as the presence of markedly overage boys and girls in the elementary grades is, considered from the standpoint of social maladjustment alone, there is a yet more serious side of the situation. In many instances the very fact that these boys and girls are markedly overage for their grades is an indication that the school has failed to give them the educational opportunities they need. Accordingly, in considering the needs of these boys and girls, more attention should be given to the development of programs for them that will promise the greatest returns from their remaining school years. Solutions that have been proposed for these difficulties are discussed in the following sections of this chapter.

Junior-High-School Opportunities for Markedly Overage Elementary-School Children

Many of the overage pupils in the elementary grades have attained junior-high-school age. Regardless of their achievements in elementary-school subjects, they have many needs which a junior high school is designed to serve. Children who have attained the age of thirteen years should usually be permitted to enter the junior high school regardless of their academic attainments. Consideration of the needs of these boys and girls

ILLUSTRATION 3

A FIFTH-GRADE CLASS FAVORED BY BETTER THAN AVERAGE CLASSIFICATION CONDITIONS



(Facing 33)

has led to the conclusion that the elementary school (grades 1 to 6) should not be permitted to keep a boy or girl until the years allotted to the public schools for educating him are passed. In most cases it should be given no further opportunities after the pupil has reached the age of thirteen. Whatever the attainment of the pupil in academic subjects, the junior high school is much better fitted to continue the education of such a pupil than the elementary school.

The junior high school is better fitted to deal with these pupils not only because it provides a social environment designed for adolescents, but also because it provides a wider variety of activities and courses from which the day-to-day program of an individual may be built. Its organization is such that an individual pupil may, with little difficulty, be given a program markedly different from that of any other pupil. These points are of particular importance because of the fact that the programs of these pupils must in many cases be different from the normal programs. While many of these children will be able to carry a normal junior-high-school program, others, because of limitations in native ability and low achievement in the elementary-school work, will require specially adapted programs.

A pupil may not, however, be taken out of the elementary school and placed in the junior high school without a planned program that he may profitably carry in the junior high school. This makes necessary, in addition to the information which his class teacher has about him, objective evidence as to his native mental ability and his actual achievement in school subjects as obtained from standard mental tests and achievement tests.

The discussion of an actual situation will serve to illustrate both the importance of reclassification of such pupils and the necessity of analyzing each individual case in detail.

Illustration 3 (facing this page) shows photographs of the boys and girls in a second-semester class of thirty-six pupils. This class of boys and girls was chosen at random out of a school

system better organized for meeting individual needs than is that of the average community. The teacher had these pupils grouped into two sections during the preceding semester. The boys in the front row and the girls in the front row were in what was supposed to be the better section. Those in the back row were in the poorer section. Subsequent investigation showed this division to have been made very poorly indeed. The school system in question has the midyear-promotion system. This is a high-fifth grade. The time under consideration is the beginning of the second half of the school year, February.

A testing program. — At the end of the preceding term the following tests¹ were given to the members of this class as well as to other children in grades three to eight inclusive in this school system:

1. Tests of mental ability to measure native intelligence.

The National Intelligence Test.

The McCall Multi-Mental Intelligence Test.

2. Tests of achievement.

The Stanford Achievement Test, a combination of nine tests:

Three reading tests — word meaning, sentence meaning, and paragraph meaning.

Two arithmetic tests — reasoning and computation.

A nature-study and science test.

A history and literature test.

A language-usage test.

A spelling test.

A test of social background, made especially for this purpose — not standardized.

These tests were given for the following purposes:

1. To measure achievement in the various school subjects, in order that the people of the community might have an accounting of the success of the schools in this respect.

2. To assist in the supervisory program, by pointing out those

¹ A series of different test programs designed for the same purposes is given in Chapter VIII.

places in the instructional program where particular attention was needed.

3. To give a basis for discovering how well individual boys and girls were being cared for in the schools -- whether or not they were so placed in the school system that they were obtaining the greatest good from their schooling.

4. To serve as a basis for making any changes in the programs of individual pupils that their welfare demanded.

The cost of the testing materials in such a program is approximately fifteen cents per pupil. The actual testing time is approximately three hours. With proper rest periods, a day and a half is required to give this series. The tests are scored rapidly, since each question has only one answer and this answer is generally made by the pupil by checking one of two or more possible answers. The actual scoring time for the several hundred items included in such a testing program is approximately one hour per pupil. Pupils universally enjoy such tests. Teachers find a great deal of satisfaction in their use because of the ease of scoring the papers.

Intelligence tests. — The tests of mental ability were useful in the first aspect of this program. If a class or a school was low in achievement, the explanation might be that the pupils were low in mentality. If a school or a class was particularly high in achievement, it might be due to superior intelligence of the pupils. The mental-ability tests were useful in the third and fourth aspects of this program, as they gave some indications of the capacity of individual pupils to do ordinary school work.

The intelligence or mental tests used were group intelligence tests similar to those used to test native ability of soldiers during the World War. Illustration 4, on page 36, is a reproduction of a part of one form of the McCall Multi-Mental Scale.¹ It shows forty groups of words, five in a group. The entire test has one

¹ Published by the Bureau of Publications, Teachers College, Columbia University, New York.

ILLUSTRATION 4

EXCERPT FROM THE McCALL MULTI-MENTAL SCALE

MULTI-MENTAL SCALE

Elementary School
Form 1

By William A. McCall and His Students, Teachers College, Columbia University

Name	Grade	School	City	Age	Boy or Girl																														
<table border="0"> <tr> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> </tr> <tr> <td>chair</td> <td>gate</td> <td>sweet</td> <td>mama</td> <td>dog</td> </tr> <tr> <td>dog</td> <td>good</td> <td>ripe</td> <td>sister</td> <td>leaps</td> </tr> <tr> <td>table</td> <td>big</td> <td>red</td> <td>papa</td> <td>stone</td> </tr> <tr> <td>bed</td> <td>bad</td> <td>crow</td> <td>brother</td> <td>runs</td> </tr> <tr> <td>stove</td> <td>little</td> <td>apple</td> <td>grandma</td> <td>barks</td> </tr> </table>						A	B	C	D	E	chair	gate	sweet	mama	dog	dog	good	ripe	sister	leaps	table	big	red	papa	stone	bed	bad	crow	brother	runs	stove	little	apple	grandma	barks
A	B	C	D	E																															
chair	gate	sweet	mama	dog																															
dog	good	ripe	sister	leaps																															
table	big	red	papa	stone																															
bed	bad	crow	brother	runs																															
stove	little	apple	grandma	barks																															
1	2	3	4	5	6	7	8	9	10																										
fly	cup	horse	lesson	grass	robin	high	irrigate	black	word																										
burn	fork	calf	problem	coal	geranium	low	land	hot	paragraph																										
gasoline	saucer	colt	teacher	carbon	elephant	cat	soil	white	sentence																										
coal	bowl	hen	learn	tar	poppy	fever	cultivate	star	style																										
wood	knife	cow	solve	soot	bluebird	dangerous	navigate	cold	composition																										
11	12	13	14	15	16	17	18	19	20																										
baby	another	cruel	vote	foreign	gold	moon	stone	needle	quickly																										
slow	either	cheerful	decide	beast	steel	seed	wood	scissors	buy																										
donkey	last	courteous	citizens	rose	ore	tree	iron	paper	manufacture																										
gate	neither	lad	factory	coin	spring	root	horse	cloth	shoes																										
sleepy		generous	juries	fragrant	iron	sapling	clay	thread	sell																										

(Groups 21 to 80 omitted . . . scored as 474.)

81	82	83	84	85	86	87	88	89	90
sour	gun	like	paper	large	cat	wrong	swim	churn	Alaska
sweet	hammer	nation	cover	air	monkey	give	spiders	sew	Mexico
bitter	sharp	position	door	white	baboon	right	fish	write	United States
acid	shoot	rule	book	ball	tiger	night	lamb	butter	France
tart	knife	accept	leather	hard	elephant	sleep	spin	dress	Canada
91	92	93	94	95	96	97	98	99	100
eat	books	wool	sweet	chair	smooth	girl	ducks	baby	investigate
sing	power	cloth	lemons	room	road	walk	paddle	puppy	publish
book	knowledge	shoes	cake	hall	great	does	geese	kitten	editors
apple	paper	meat	sour	building	rough	sleep	fish	pig	write
read	food	leather	salty	door	table	play	swim	calf	printing

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If you finish before time is called, go back and improve your work.

Published by Bureau of Publications, Teachers College
Columbia University, New York City

Total	648
Minus	405
Score	243

(Total score of 648 minus 5 times the number tried, or 5×81 ; the resulting score is 243.)

hundred such groups. Each pupil is given a copy of the test. The tester gives the following instructions:

Look at the first set of five words under A: *chair, dog, table, bed, stove*. One word does not belong with the others. Which is it? . . . *Dog* is the word, because a dog is not furniture like *chair, table, bed, and stove*. With your pencil draw a line right through *dog*. . . .

Look at the next set of words, under B: *gate, good, big, bad, little*. Which word does not go with the others? . . . *Gate* is the word, because *good* and *bad* go together and *big* and *little* go together. Draw a line right through *gate*. . . .

Look at the next set of words, under C: *sweet, ripe, red, crow, apple*. Which word does not go with the others? . . . *Crow* does not go with

the others. We can have a sweet, ripe, red apple, but we cannot have a sweet, ripe, red crow. Draw a line right through *crow*. . . .

Look at the next set of words, under D: *mama, sister, papa, brother, grandma*. Which word does not go with the others? . . . *Grandma* does not go with the others because *mama* and *papa* go together and *sister* and *brother* go together. Draw a line right through *grandma*. . . .

Look at the next set of words, under E: *dog, leaps, stone, runs, barks*. Which word does not go with the others? . . . *Stone* does not go with the others, because a dog leaps, runs, and barks. Draw a line right through *stone*. . . .

Pencils down! . . . Listen carefully. In the same way, draw a line through the *one and only one* word which does not belong with the others in each of the sets on this page. Do set number 1 first, then set number 2, and so on. *Be sure not to skip any set*. Mark some word in it before passing on to the next set. You will have plenty of time, if you don't waste it. If you finish before time is called, go back and make sure you have made no mistakes. If you decide to change your mark, don't forget to erase your first mark. Now once more, to make certain you understand every point. Be sure to draw a line right through the one and only word in each set that does not go with the others. Be sure to do set 1 first, then set 2, and so on without skipping any set. Be sure to use every minute of the time, that we may be proud of the score for our school. Ready with pencil! Go!

Pupils are then given twenty minutes to work on the test. To score the test a key is provided that indicates the credit to be given for each word marked out. If the pupil marks out the word that is least related to the others, he is given 10 points. If he marks out the one that least reasonably should be marked out, his score on that group is 0. If he marks out any one of the remaining three, his score for that group is somewhere between 0 and 10. For example, in the group,

fly
burn
gasoline
coal
wood

which is Number 1 in Illustration 4, a credit of 10 is given for marking out *fly*, a credit of 9 for *burn*, a credit of 3 for *gasoline*,

a credit of 0 for *coal*, and a credit of 1 for *wood*. When the scoring key is superimposed upon the test sheet the value of each word in each group may be seen readily. The above group appears with the scoring key as follows:

10	fly
9	burn
3	gasoline
0	coal
1	wood.

Since the pupil marked *fly*, his score on the group is 10. The total possible score on all 100 items is 1000. A pupil that marks the groups indiscriminately will receive an average of 5 on each item. Therefore, 5 times the number he attempts is subtracted from his total. The result is that the final score varies from -258 to a possible 500.

The author of the test furnishes tables by which these scores can be changed over to age scores. These tables show the average age of pupils who make each score. For example, Table 1 gives an excerpt from the table of standards. It shows the age equivalents of each score from -13 to 413. A score of 105 is made by the average pupil 10 years and 6 months old. These age scores are then taken as an indication of the stage of mental development of the pupil. A pupil with a score of 105 is said to have the mental development of the average pupil 10 years and 6 months old.

Besides the mental maturity measure that the mental age provides, another valuable measure, the intelligence quotient, or I. Q., is obtained from these tests. The I. Q. is a measure of brightness, particularly with regard to ability to do school work of the ordinary or traditional type. It is obtained by dividing mental age by chronological age¹ and expressing the result in hundredths. For example, the pupil whose score is shown in Illustration 4 has a mental age, according to Table 1, of 12 years

¹ Because of the nature of the growth of mental maturity as measured by such tests, a chronological age greater than 16 is taken as 16.

and 6 months, or 150 months. His chronological age at the time the test was taken was 12 years and 11 months, or 155 months. Dividing 150 by 155, we obtain .97. This result expressed in hundredths is 97.

TABLE 1
AGE TABLE FOR MULTI-MENTAL SCALE¹

SCORE	MENTAL AGE		SCORE	MENTAL AGE	
	Yr.	Mo.		Yr.	Mo.
-13 to +7.....	9	— 5	296 to 306.....	13	— 10
8 to 26.....	9	— 7	307 to 317.....	14	— 2
27 to 42.....	9	— 8	318 to 327.....	14	— 5
43 to 58.....	10	— 0	328 to 337.....	14	— 8
59 to 75.....	10	— 2	338 to 347.....	15	— 0
76 to 95.....	10	— 4	348 to 356.....	15	— 5
96 to 114.....	10	— 6	357 to 365.....	15	— 9
115 to 133.....	10	— 8	366 to 372.....	16	— 1
134 to 152.....	10	— 11	373 to 378.....	16	— 5
153 to 167.....	11	— 2	379 to 385.....	16	— 10
168 to 182.....	11	— 4	386 to 391.....	17	— 2
183 to 195.....	11	— 6	392 to 398.....	17	— 6
196 to 207.....	11	— 9	399 to 403.....	17	— 9
208 to 221.....	12	— 0	404 to 408.....	18	— 0
222 to 235.....	12	— 2	409 to 413.....	18	— 3
236 to 249.....	12	— 6			
250 to 259.....	12	— 9			
260 to 271.....	13	— 0			
272 to 284.....	13	— 3			
285 to 295.....	13	— 7			

¹ Excerpt from Table I, Manual of Directions for the Multi-Mental Scale.

Professor L. M. Terman, in his *Measurement of Intelligence*,¹ page 66, gives the following percentage distribution of I. Q.'s (ratio of mental age, as evidenced by an examination using the Stanford Revision of the Binet-Simon Intelligence Test, to chronological age) for a group of 1000 unselected children:

Terman, L. M., *Measurement of Intelligence*, Houghton Mifflin Co., 1916.

I. Q. Range	Percentage of Total	I. Q. Range	Percentage of Total
56-65.....	.33	106-115.....	23.1
66-75.....	2.3	116-125.....	9.0
76-85.....	8.6	126-135.....	2.3
86-95.....	20.1	136-145.....	.55
96-105.....	33.9		

In the same work, page 76, he interprets the significance of the various I. Q. ranges, the following table reproducing his interpretation.

SIGNIFICANCE OF I. Q.'S

I. Q.	Classification
Above 140.....	"Near" genius or genius
120-140.....	Very superior intelligence
110-120.....	Superior intelligence
90-110.....	Normal, or average, intelligence
80-90.....	Dullness, rarely classifiable as feeble-mindedness
70-80.....	Borderline deficiency, sometimes classifiable as dullness, often as feeble-mindedness
Below 70.....	Definite feeble-mindedness

The National Intelligence Test¹, the other intelligence test used, is a combination of five tests. One is a reasoning or a computation arithmetic test. There are four psychological tests, such as completing sentences that have a word omitted, choosing out of a group of words one closely related to an indicated word, and indicating whether words have opposite meanings or the same meaning. This test requires approximately thirty minutes. The tests are scored by the use of keys furnished with the tests. The scores are changed to mental ages and intelligence quotients in a manner similar to that used with the McCall Multi-Mental Test.

Scores on these tests are not supposed to be affected by school training. However, children who have meager social backgrounds or have language difficulties will not show so high a mental development on these tests as they really have. There

¹ Published by World Book Company.

are other difficulties that keep those who use these tests most successfully from placing too much faith in them. When there is doubt about the result, the pupil should be tested with another test or with an individual intelligence test. Teachers should never hesitate to question the result of one of these tests. The tests are probably most useful when they disagree with the teacher's preconceived notion of a pupil's ability, for then they start an investigation that may reveal important facts. Many children who are considered mediocre because of bad work habits, poor health, physical defects, or other causes, are discovered to be exceptional. Used as a substitute for good judgment and personal observation, the intelligence test as we have it is a very dangerous tool. Used as an aid to right judgment, it is very helpful indeed.

In the testing program outlined above, two tests of mental ability were used, because no mental tests had been given these pupils previously. The results from the two were averaged. The use of two of them made possible a surer judgment. Several school systems give such group tests in the first, third, sixth, and ninth grades, repeating them in doubtful cases. Individuals who are to receive markedly different treatment according to the judgment based upon such tests, should be tested further with an individual test. The most commonly used individual test is the Stanford Revision of the Binet-Simon Individual Test.¹ This must be given by a highly trained individual.

Achievement tests. — The Stanford Achievement Test,² a combination of nine tests, was used to measure achievement. To make possible a comparison of achievement in various subjects, the scores in each test may be expressed in age scores in a manner similar to that used in changing mental-test scores to mental-age scores. The authors of the test give a table that

¹ Terman, L. M., *Ibid.*

² Published by the World Book Company.

TABLE 2
AGE AND GRADE EQUIVALENTS IN THE STANFORD ACHIEVEMENT TEST
EDUCATIONAL PROFILE CHART: ADVANCED EXAMINATION*

Test 1, Parag. Mean.	Test 2, Sent. Mean.	Test 3, Word Mean.	Read. total	Test 4, Arith. Comp.	Test 5, Arith. Reas.	Arith. total	Test 6, Na. St. & Sci.	Test 7, Hist. & Lit.	Test 8, Lang. Usage	Test 9, Dicta- tion	Total Score	Educa- tional Age	Chrono- logical Age	Grade*
-102	-75	-82	-259	-179	-132	-311	-86	-84	-54	-206	-100	-18-6		
-102	-75	-81	-258	-175	-132	-307	-85	-83	-53	-204	-99	-18-4		
-101	-74	-80	-255	-171	-131	-302	-85	-83	-53	-202	-98	-18-1		
-101	-74	-79	-254	-168	-131	-297	-84	-82	-52	-200	-97	-17-11		
-101	-73	-79	-253	-161	-130	-291	-84	-83	-51	-198	-96	-17-8		
-101	-73	-78	-252	-157	-130	-287	-83	-83	-50	-195	-95	-17-6		
-100	-72	-78	-250	-152	-130	-282	-82	-82	-50	-194	-94	-17-4		
-100	-72	-77	-249	-148	-129	-277	-82	-82	-49	-191	-93	-17-2		
-99	-71	-76	-246	-147	-127	-274	-81	-81	-48	-190	-92	-17-1		
-98	-70	-75	-243	-147	-124	-271	-80	-80	-47	-189	-91	-16-11		
-96	-70	-74	-240	-146	-123	-268	-80	-78	-47	-187	-90	-16-9		
-95	-69	-73	-237	-146	-119	-265	-79	-77	-46	-186	-89	-16-8		
-94	-68	-73	-235	-145	-117	-262	-78	-75	-45	-185	-88	-16-6		
-92	-67	-72	-231	-145	-114	-259	-78	-74	-45	-183	-87	-16-5		
-90	-67	-71	-228	-143	-112	-257	-77	-73	-44	-182	-86	-16-3		
-89	-66	-70	-225	-144	-110	-254	-77	-70	-43	-181	-85	-16-2		
-88	-65	-69	-222	-144	-107	-251	-76	-69	-43	-179	-84	-16-1		
-87	-65	-68	-220	-143	-105	-248	-75	-67	-42	-178	-83	-15-11		
-86	-64	-67	-217	-142	-104	-246	-74	-66	-41	-176	-82	-15-10		10.0
-85	-63	-66	-214	-141	-103	-244	-73	-65	-40	-174	-81	-15-9		9.8
-84	-62	-65	-211	-140	-102	-242	-72	-64	-40	-172	-80	-15-7	Adult	9.7
-83	-61	-64	-208	-139	-101	-240	-71	-62	-39	-170	-79	-15-6		9.6
-83	-60	-63	-206	-138	-100	-238	-70	-61	-38	-168	-78	-15-4		9.5
-82	-59	-62	-203	-137	-99	-236	-68	-60	-38	-165	-77	-15-2		9.4
-81	-58	-61	-200	-136	-98	-234	-67	-59	-37	-163	-76	-15-1		9.3
-81	-57	-60	-198	-134	-97	-231	-66	-58	-36	-161	-75	-14-11		9.2
-80	-56	-59	-195	-133	-96	-229	-65	-56	-35	-159	-74	-14-9		9.1
-79	-55	-58	-192	-132	-95	-227	-64	-55	-35	-157	-73	-14-8		9.0
-78	-54	-58	-190	-131	-93	-224	-63	-54	-34	-155	-72	-14-6		8.5
-77	-54	-57	-188	-129	-92	-221	-62	-52	-34	-153	-71	-14-4		8.4
-76	-53	-56	-186	-128	-91	-219	-61	-51	-33	-150	-70	-14-2		8.2
-75	-53	-55	-185	-127	-89	-216	-60	-49	-32	-148	-69	-14-0		8.1
-75	-52	-55	-182	-125	-87	-212	-60	-48	-32	-146	-68	-13-10		8.0
-74	-52	-54	-180	-124	-86	-210	-59	-46	-31	-144	-67	-13-8		7.9
-74	-51	-54	-179	-123	-84	-207	-58	-44	-31	-141	-66	-13-6		7.7
-73	-51	-53	-177	-121	-83	-204	-57	-43	-30	-139	-65	-13-5		7.6
-72	-50	-53	-175	-120	-81	-201	-56	-42	-30	-137	-64	-13-3		7.5
-71	-50	-52	-173	-119	-80	-199	-55	-40	-29	-134	-63	-13-2		7.4
-71	-49	-51	-171	-118	-78	-196	-54	-39	-28	-132	-62	-13-0		7.3
-70	-48	-51	-169	-117	-77	-194	-52	-38	-28	-129	-61	-12-11		7.2
-70	-47	-50	-167	-117	-75	-192	-51	-37	-27	-126	-60	-12-9		7.1
-69	-46	-49	-164	-116	-73	-189	-50	-36	-27	-124	-59	-12-8		7.0
-68	-45	-48	-162	-115	-72	-187	-49	-35	-26	-121	-58	-12-7		6.8
-67	-45	-48	-160	-114	-70	-184	-48	-34	-25	-119	-57	-12-6		6.7
-67	-44	-47	-158	-113	-68	-181	-47	-33	-25	-116	-56	-12-5		6.6
-66	-43	-46	-155	-112	-67	-179	-46	-31	-24	-114	-55	-12-4		6.5
-65	-43	-46	-154	-110	-65	-176	-44	-30	-24	-112	-54	-12-2		6.4
-64	-42	-45	-151	-109	-65	-174	-43	-29	-23	-110	-53	-12-1		6.3
-64	-41	-44	-149	-107	-63	-170	-42	-28	-23	-108	-52	-12-0		6.2
-63	-40	-44	-147	-105	-62	-167	-40	-27	-22	-107	-51	-11-11		6.1
-62	-39	-43	-144	-103	-61	-164	-39	-26	-22	-105	-50	-11-10		6.0
-61	-38	-42	-141	-102	-60	-162	-38	-25	-21	-103	-49	-11-9		5.9
-60	-38	-41	-139	-100	-59	-159	-36	-24	-21	-101	-48	-11-8		5.8
-59	-37	-41	-137	-98	-58	-156	-35	-23	-20	-99	-47	-11-7		5.7
-58	-37	-40	-135	-96	-56	-152	-34	-22	-20	-97	-46	-11-6		5.6
-57	-36	-39	-132	-95	-55	-150	-33	-21	-19	-95	-45	-11-5		5.5
-56	-35	-38	-129	-93	-54	-147	-32	-20	-19	-93	-44	-11-4		5.4
-55	-35	-37	-127	-91	-52	-143	-31	-20	-18	-91	-43	-11-3		5.3
-55	-34	-36	-125	-89	-51	-140	-30	-19	-17	-89	-42	-11-2		5.2
-54	-33	-35	-122	-87	-50	-137	-29	-18	-17	-87	-41	-11-1		5.1
-53	-33	-34	-120	-86	-48	-134	-28	-17	-16	-85	-40	-10-11		5.0
-52	-32	-33	-117	-84	-47	-131	-27	-16	-16	-83	-39	-10-10		4.9
-51	-31	-32	-114	-82	-46	-128	-26	-15	-15	-81	-38	-10-9		4.8
-50	-30	-32	-112	-80	-44	-124	-25	-15	-15	-79	-37	-10-9		4.7
-49	-30	-31	-110	-78	-43	-121	-24	-14	-14	-77	-36	-10-8		4.6
-48	-29	-30	-107	-76	-42	-118	-23	-13	-13	-75	-35	-10-7		4.5
-47	-29	-29	-105	-74	-41	-115	-22	-12	-12	-73	-34	-10-6		4.4
-46	-28	-28	-102	-73	-39	-112	-21	-12	-12	-71	-33	-10-5		4.4
-45	-27	-27	-99	-71	-38	-109	-20	-11	-11	-69	-32	-10-4		4.3
-43	-26	-26	-96	-70	-38	-108	-18	-10	-10	-68	-31	-10-3		4.2
-42	-25	-25	-92	-68	-37	-105	-17	-10	-10	-66	-30	-10-2		4.1
-40	-24	-24	-88	-66	-36	-102	-16	-9	-10	-65	-29	-10-1		4.0
-39	-23	-23	-85	-65	-35	-100	-15	-8	-9	-63	-28	-10-0		3.9
-38	-22	-22	-82	-63	-34	-97	-14	-8	-8	-62	-27	-9-11		3.8
-36	-21	-21	-78	-62	-33	-95	-13	-7	-8	-60	-26	-9-10		3.7
-35	-20	-20	-76	-60	-32	-92	-11	-6	-7	-59	-25	-9-8		3.6
-34	-19	-19	-72	-59	-31	-90	-9	-5	-7	-57	-24	-9-7		3.5
-32	-18	-18	-68	-57	-30	-87	-8	-5	-6	-56	-23	-9-6		3.4
-31	-17	-17	-65	-56	-30	-86	-7	-5	-5	-54	-22	-9-5		3.3
-30	-16	-16	-62	-54	-29	-83	-6	-4	-5	-53	-21	-9-4		3.2
-28	-15	-15	-58	-53	-27	-80	-5	-4	-4	-51	-20	-9-2		3.1
-27	-14	-14	-55	-50	-26	-76	-4	-3	-4	-49	-19	-9-1		3.0
-25	-14	-13	-52	-47	-25	-72	-3	-2	-3	-48	-18	-9-0		2.9
-24	-13	-13	-49	-45	-24	-69	-3	-2	-3	-46	-17	-8-11		2.8
-22	-13	-12	-47	-42	-22	-64	-2	-1	-2	-44	-16	-8-10		2.7
-21	-12	-11	-44	-40	-20	-60	-2	-1	-1	-42	-15	-8-9		2.6

* Grade defined as in Table 5, Manual of Directions, Revised.

** Educational ages above this point are extrapolated values.

For explanation of vertical bars see Manual of Directions, Revised.

From *Stanford Achievement Test*, published by World Book Company, Yonkers-on-Hudson, New York. Copyright by World Book Company, 1922, 1925.

makes it possible to discover the age at which pupils usually reach the achievement indicated by any score. It is reproduced, greatly reduced in size, as Table 2, on page 42. It will be noted that a score of 131 in the test on arithmetic computation is the achievement of the average pupil who is 14 years and 6 months old. This was obtained by locating number 131 in the arithmetic-computation column of Table 2, and then noting the age given on the same line in the educational-age column. Similarly, 48 in arithmetic reasoning is equivalent to an age score of 11 years and 0 months. This test provides a method of combining the scores to give the desired weighting. The scores are simply added together, and the result divided by 10. This resulting total score can then be changed to an age-equivalent score by using Table 2, as illustrated above. The resulting age score is an average-achievement age, or, as it is more frequently called, the educational age. For example, if a pupil has a total score of 72, we look for 72 in the total-score column of Table 2 and find that it corresponds to an educational age of 14 years and 6 months.

When a series of tests are used that are not developed by their authors as a single combination, the educational age of a pupil is obtained by averaging the age equivalents of his scores in the several tests.

The authors of some tests give grade scores instead of age-equivalent scores. Table 2 gives the grade-score equivalents for the Stanford tests as well as the age scores. If it is desired to change a grade score into an age score when the author of the test fails to give the standards for ages, Table 2 may be used. For example, a score of 10 on the Thorndike Hand-writing Test is equivalent to a grade score of 6.8. That is, a pupil 8 months through the sixth grade is supposed to write well enough (usual quality) to score 10 on this scale. Since the author does not give age scores, reference to the Stanford Table (last two columns) will show that a grade score of 6.8 may be

taken as equivalent to an age score of 12 years and 7 months. Therefore, a score of 10 on the Thorndike Handwriting Scale is equivalent to an age score of 12 years and 7 months.

Since intelligence is reflected in the quality of school work, the educational development of a pupil is sometimes taken as a measure of brightness. Educational development is influenced more by the nature and quality of schooling than the intelligence-test results, but it is nevertheless a useful supplementary measure. It is obtained by a method similar to that used in obtaining the intelligence quotient. A reading quotient is determined by dividing the reading age by the chronological age and expressing the result in hundredths. An arithmetic quotient is obtained by a similar use of the arithmetic age. The educational quotient, E. Q., is obtained by dividing the educational age determined from several achievement tests by the chronological age and expressing the result in hundredths. A pupil whose educational age is 12 and whose chronological age is 10 has an E. Q. of 120. That is, 12 divided by 10 is 1.20, or 120 hundredths.

The social-background test was an unstandardized list of questions upon the following topics: (1) Conditions in the home, such as, number of books; ownership of home; possession of musical instruments; place to study. (2) Habits, such as, sleeping with window open; use of toothbrush; table manners.

An arbitrary method of allotting age scores was used. The pupil with the highest score on the test was allotted an age score equal to the highest educational-age score in the class. The pupil with the next highest score of the social background test was given an age score equal to the second highest educational-age score in the class. This process was continued until each pupil was allotted an age score in social background.

Assembling important information. — Chart 1, page 46, shows how test and other information may be assembled to simplify the consideration of each individual pupil. Note that the age score for each test is recorded opposite the name of the test, in the

column headed *Age Equivalents*. The educational age, or achievement expressed in terms of age, is likewise entered as 9 years and 11 months. The mental age, as obtained by averaging the results of the two mental tests, is given in the age-equivalents column as 9 years and 8 months. The chronological age of the pupil 13 years and 0 months, is recorded at the top of the column. The pupil's height, expressed in terms of the age of which it is most characteristic, is recorded just beneath the chronological age. This age equivalent of the pupil's height was obtained by reference to the foot of Tables 3 and 4 (pages 50 and 51), which give the average height for various ages. For example, the pupil in Chart 1 is a little less than 60 inches tall. Sixty inches is average height for a pupil 13 years of age. This pupil's height is therefore normal for a pupil of approximately 12 years and 11 months of age. This 12-11 is therefore recorded in the age-equivalents column opposite height.

The variation of these age scores can be more readily seen when points are located on the scale opposite corresponding age scores, and connected with a broken line. By reference to the age scale above the blank lines, this can be done readily. The vertical line represents the achievement that is normal for the grade of which this pupil is a member. It is located by reference to the grade scale above the blank lines. In William's case it is halfway between 5 and 6, inasmuch as the class of which he is a member is beginning the second half of the fifth grade.

The I. Q., 74, was obtained by dividing the mental age, 9 years and 8 months, by the chronological age, 13 years and 0 months. The E. Q., 76, was obtained similarly by dividing the achievement-average age, or educational age, 9 years and 11 months, by the chronological age, 13 years and 0 months. The average, 75, is the average of the two brightness measures, the I. Q. and the E. Q.

The variation from normal weight was obtained by referring to normal weight tables. Such tables for boys and girls are given

CHART 1

A thirteen-year-old boy in the high-fifth grade

Pupil William Date _____ Grade High 5 Boy ☒ Girl _____

Address _____ Tel. No. _____ Home Room _____ Parent _____

School _____ Teacher _____

Date of Birth _____ Height 59.9 Weight 87

Entrance grade in this school system _____ Entrance grade in this school Undergarten

Grades skipped none Grades repeated 1B-1A-5B-4A Half years spent in kindergarten _____

Does pupil expect to go to high school? yes College? yes

What does he want to do when he finishes school? Intends to be a Doctor

Does he take music lessons outside of school? no Other lessons, if any, outside of school? no

Member of the following school teams or other organizations: _____

Outside organizations: Boy Scouts

What musical instruments? _____

What magazine does he read most? Boys Life How is out-of-school time spent? Plays for fun

Is there a room in the home where he can study by himself? no What kind of music does he like best? jazz Has he a card for the public library? no Times each week spent at the movies? _____ What language is spoken in the home? English How many books in the home? 130

Specific Weaknesses _____

Physical Defects None recorded

Too mature socially for this group? _____ Too immature? _____ Does the program of this pupil vary from that of the class as a whole in any manner? no

Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) _____

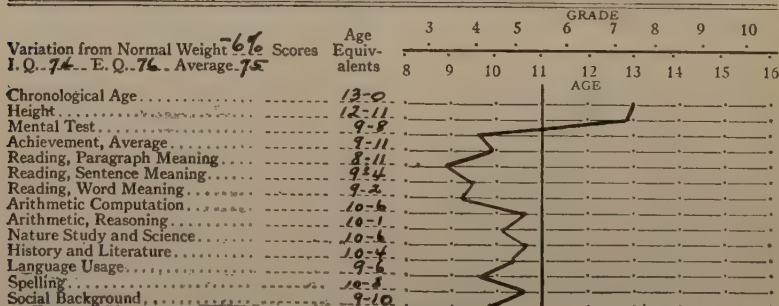
Variations from section program at any time in past (give grade, type of section, and nature of variation) _____

Any other irregular features in this pupil's school history _____

Enrollment in this class 36 Type of class Low

Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

1. General Ability	5. Leadership	9. Freehand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	



The broken line represents William's record.

The vertical line shows the standard for the high-fifth grade.

Comments of Special Teachers:

Library Teacher: *Difficult to interest.*Arts and Crafts Teacher: *Emphatic instructions necessary. Indifferent.*

as Tables 3 and 4, pages 50 and 51. This pupil's age is 13 years and 0 months. His height is 60 inches. By reference to Table 3, it may be seen that the normal weight for a boy 13 years of age and 60 inches tall is 93 pounds. Since this boy weighs 87 pounds, he falls below the normal weight by 6 pounds, or 6 per cent. The age used is that of the nearest birthday. A pupil 11 years and 5 months of age is considered 11 years. Height is measured to the nearest inch, without shoes, while weight is measured with the child in indoor clothes, without shoes. Care must be taken to weigh and measure accurately. A pupil who is 7 per cent or more underweight is probably suffering from malnutrition, and should be given a careful physical examination by a competent physician.

Other information assembled on this card is obtained from the class teacher or special teachers, or from the permanent scholastic and health records. It brings together facts from the pupil's previous school history, his outside activities and interests, his home opportunities, and the judgment of the teachers who have worked with him from day to day.

Illustrative analyses of records of individuals who should be placed in junior high school. — As a result of the possession of such information as has been discussed in the preceding sections, we are now able to resume our discussion of placement of elementary pupils over 13 years of age in the junior high school. There are three pupils 13 years of age or older in the class shown in Illustration 3, facing page 33. Of these three, two should be placed in the junior high school. One should be placed in a special class for mentally retarded pupils. A discussion of test scores and other records of these pupils will serve to illustrate the need of careful study of each case.

Chart 1, page 46, gives the record for William. William is as tall as the average seventh-grade boy. He spent six and a half years in covering the four and a half years of school work that he has completed. He comes from a home with the average

social opportunities. He says that he wishes to become a doctor. His last semester's teacher rated him as one of the best five of his section (the poorer section) in general ability, in attitude toward work, in leadership, in language usage, in arithmetic, and in spelling. She rated him among the lowest five of this section in freehand drawing and in music.

On the average he is lower in the tests than the average pupil beginning the upper half of the fourth grade. Obviously, the teacher's judgment would lead us astray. William's chances of completing high school are very remote. He cannot hope to succeed in the traditional school work of the junior high school with any but children of the very lowest ability. He is not, however, of low enough intelligence to be put in a class for mentally retarded pupils. His work should be planned in such a manner that the two or three years of school that remain to him may give him something other than a mere completion of the regular sixth-grade work. We could not expect even this much from a normal program, since he has taken six and a half years to attain fourth-grade standards.

William will probably be a respected and successful citizen in his community. Ten years from now he may be the expert who diagnoses the needs of your automobile, or manufactures the fine tools with which it is repaired, or prepares filet mignon exactly to your taste. The public schools may have a part in bringing about or assuring his success, or he may look back on what the school offered him as something very remote from his actual needs.

This boy and others like him in the school system should have individual programs developed that will make use, where possible, of the work that is now offered in the junior high school. Some time should be given to the fundamentals of the elementary school. William, for instance, should have work in arithmetic somewhat similar to that which he would have if he were to remain in his present class. He should have further training in

ILLUSTRATION 5

ELEMENTARY SCHOOLS ARE NOT SUITED TO MEET THE NEEDS OF
BOYS AND GIRLS OF HIGH-SCHOOL AGE



The educational opportunities of the elementary schools are provided for young children. The elementary-grade boys and girls who are thirteen years old or older should have different opportunities.

In the city in which this picture was taken there were, on the average, two pupils of junior-high-school age for each elementary class.

(Facing 48)

reading also, since his attainment in reading is now only up to the third-grade level. But he should have the opportunity for a half year, or a year, of taking those broadening and finding courses that are gauged to his ability; such courses as auto mechanics, cooking, general shop work, instrumental music, typewriting, vocal music, vocational information, bricklaying, cement mixing, carpentry, forging, etc. The fact that the most promising course may prove to be offered in a higher grade than the seventh should not be allowed to stand in the way of those who plan William's program. We should discover his special aptitudes as soon as possible and then make available the manner of school life that will contribute most to his usefulness as a citizen. In this we must not neglect the cultural and basic training. That would be as disastrous to the educational results we are seeking for William as would a continuation of the present line of procedure.

Anything which the school as a whole, from kindergarten through high school, has to offer should be reasonably available for any boy or girl. If no special courses are available in the elementary schools, the offerings of the high school should be canvassed. It may be that William can be cared for in a class or two in high school, as a special case, and work in his regular classroom the remainder of the day. The writer recalls the case of a girl with less intelligence than William who, although sixteen years old, was doing unsuccessful work in the third grade. The school had failed to make the provisions that should have been made for her even as this school has failed to take the best care of William. A conference with the teacher of domestic art in the high school resulted in a plan whereby the girl in question spent half a day as usual with her own class, and the other half day in the high school on the other side of town going about from class to class with the domestic art teacher. She worked on individual projects that were quite as successful as those of the high-school girls.

TABLE 3

WEIGHT—HEIGHT—AGE TABLE FOR BOYS OF SCHOOL AGE

Height (inches)	Average weight for height (lbs.)	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years	12 Years	13 Years	14 Years	15 Years	16 Years	17 Years	18 Years	19 Years	Height (inches)
38	34	34	34*														38
39	35	35	35														39
40	36	36	36*														40
41	38	38	38	38*													41
42	39	39	39	39*	39*												42
43	41	41	41	41*	41*												43
44	44	44	44	44	44*												44
45	46	46	46	46	46*	46*											45
46	48	47*	48	48	48	48*											46
47	50	49*	50	50	50	50*	50*										47
48	53		52	53	53	53	53*										48
49	55		55	55	55	55	55	55*									49
50	58		57*	58	58	58	58	58*	58*								50
51	61			61	61	61	61	61	61*								51
52	64			63	64	64	64	64	64	64*							52
53	68			66*	67	67	67	67	68	68*							53
54	71				70	70	70	70	71	71	72*						54
55	74				72*	72	73	73	74	74	74*						55
56	78				75*	76	77	77	77	78	78	80*					56
57	82					79*	80	81	81	82	83	83*					57
58	85					83*	84	84	85	85	86	87					58
59	89						87	88	89	89	90	90	90				59
60	94						91*	92	92	93	94	95	96				60
61	99							95	96	97	99	100	103	106*			61
62	104							100*	101	102	103	104	107	111	116*		62
63	111							105*	106	107	108	110	113	118	123	127*	63
64	117								109	111	113	115	117	121	126	130*	64
65	123								114*	117	118	120	122	127	131	134	65
66	129									119	122	125	128	132	136	139	66
67	133									124*	128	130	134	136	139	142	67
68	139										134	134	137	141	143	147	68
69	144										137	139	143	146	149	152	69
70	147										143	144	145	148	151	155	70
71	152										148*	150	151	152	154	159	71
72	157											153	155	156	158	163	72
73	163											157*	160	162	164	167	73
74	169											160*	164	168	170	171	74
Age—years		6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Average height (inches)	Short	43	45	47	49	51	53	54	56	58	60	62	64	65	65		
	Medium	46	48	50	52	54	56	58	60	63	65	67	68	69	69		
	Tall	49	51	53	55	57	59	61	64	67	70	72	72	73	73		
Average annual gain (lbs.)	Short	3	4	5	5	5	4	8	9	11	14	13	7	3			
	Medium	4	5	6	6	6	7	9	11	15	11	8	4	3			
	Tall	5	7	7	7	7	8	12	16	11	9	7	3	4			

Baldwin, B. T., and Wood, T. D., *Weight-Height-Age Tables*. American Child Health Association, New York, N. Y.

TABLE 4

WEIGHT—HEIGHT—AGE TABLE FOR GIRLS OF SCHOOL AGE

Height (inches)	Average weight for height (lbs.)	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years	12 Years	13 Years	14 Years	15 Years	16 Years	17 Years	18 Years	Height (inches)
38	33	33	33													38
39	34	34	34													39
40	36	36	36	36*												40
41	37	37	37	37*												41
42	39	39	39	39*												42
43	41	41	41	41	41*											43
44	42	42	42	42	42*											44
45	45	45	45	45	45	45*										45
46	47	47*	47	47	48	48*										46
47	50	49*	50	50	50	50	50*									47
48	52		52	52	52	52	53*	53*								48
49	55		54	54	55	55	56	56*								49
50	58		56*	56	57	58	59	61	62*							50
51	61			59	60	61	61	63	65							51
52	64			63*	64	64	64	65	67							52
53	68			66*	67	67	68	68	69	71*						53
54	71				69	70	70	71	71	73*						54
55	75				72*	74	74	74	75	77	78*					55
56	79					76	78	78	79	81	83*					56
57	84					80*	82	82	84	88						57
58	89						84	86	86	88	93	96*	101*			58
59	95						87	90	90	92	96	100	103*	104*		59
60	101						91*	95	95	97	101	105	108	109	111*	60
61	108							99	100	101	105	108	112	113	116	61
62	114							104*	105	106	109	113	115	117	118	62
63	118								110	110	112	116	117	119	120	63
64	121								114*	115	117	119	120	122	123	64
65	125								118*	120	121	122	123	125	126	65
66	129									124	124	125	128	129	130	66
67	133									128*	130	131	133	133	135	67
68	138									131*	133	135	136	138	138	68
69	142										135*	137*	138*	140*	142*	69
70	144										136*	138*	140*	142*	144*	70
71	145										138*	140*	142*	144*	145*	71
Age-Years		6	7	8	9	10	11	12	13	14	15	16	17	18		
Average Height (inches)	Short	43	45	47	49	50	52	54	57	59	60	61	61	61		
	Medium	45	47	50	52	54	56	58	60	62	63	64	64	64		
	Tall	47	50	53	55	57	59	62	64	66	66	67	67	67		
Average Annual Gain (lbs.)	Short	4	4	4	5	6	6	10	13	10	7	2	1			
	Medium	5	5	6	7	8	10	13	10	6	4	3	1			
	Tall	6	8	8	9	11	13	9	8	4	4	1	1			

Baldwin, B. T., and Wood, T. D., *Weight-Height-Age Tables*. American Child Health Association, New York, N. Y.

It is not unusual to find retarded pupils intelligent along mechanical lines. Illustration 6 shows some parts of a mechanical-aptitude test to which a boy in a class for mentally retarded pupils gave perfect answers. Although he was an absolute failure in ordinary school work, only one boy in seven of his age is as able mechanically. Had his community had a satisfactory junior-high-school organization, opportunities for developing his talent could have been given him. Perhaps success in the shops would have led to greater interest in other school work offered in a junior high school. The test requires the matching of mechanical parts in Part 1 and Part 2. Try your hand at it. Can you, by making a perfect score, do as well as this boy who had in his ten years in school rarely been given work that he could do with as great success as other boys of his age? Is the ability shown here one to be rated low and neglected in our present complex civilization?

Chart 2, page 53, shows the record of Jack, the second boy, who is thirteen years of age. Jack's case is entirely different from William's. So far as the school records show, he has passed successfully each year he has been in school. He came to this school system a year and a half ago. No attempts were made to obtain his records from the schools which he had previously attended. So far as Jack remembers he has never been failed or skipped. His present retardation is due rather to a failure on the part of the school system to enroll him in school at the most favorable age, six years. He started school nearer eight years of age than six. Neither attendance laws nor those of economic necessity are made to care for such pupils. The two years he lost are gone and all we can do is to make the best use of the time that is remaining to us.

This pupil was carrying exactly the same program as the other members of his class — a slow-fifth-grade section. The records showed that his program had never varied from that of the group. No physical defects were reported.

ILLUSTRATION 6¹

MECHANICAL INFORMATION OF A SIXTEEN-YEAR-OLD BOY IN A CLASS FOR MENTALLY RETARDED PUPILS

PART 1

PART 2

		1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ P
		1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐
		1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Some of the test elements to which this boy gave correct answers are shown above. He was asked to match each of the mechanical elements in Part 1, at the left, with a related element in Part 2. For example, Number 5 in the top square at the left is related to P in the top square at the right.

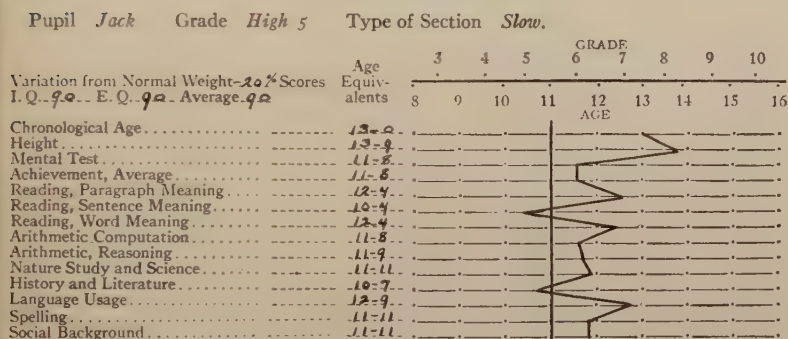
¹ From *Stenquist Mechanical Aptitude Tests*, copyright, 1921, by World Book Company, Yonkers-on-Hudson, New York.

(Facing 52)

Jack is as tall as the average eighth-grade boy. Both his intelligence quotient and his educational quotient are 90. This is considered the borderline between normal and dull-normal children.¹ His average achievement is almost a year ahead of his present grade classification. That is, he did almost as well as is expected of average children a full grade ahead of him.

CHART 2

The record of a high-fifth-grade boy who should be transferred to junior high school



The broken line represents Jack's record.

The vertical line shows the standard for the high-fifth grade.

Note: Among the pupils who stood out either as very poor or very good, this pupil was not reported by his teacher in any one of the fifteen items listed in Chart 1. His home has not supplemented his education through private music lessons or any other type of private lessons. He has never become a member of any outside organizations. His music teacher reports that he is a good music student and that she can depend upon him as an example for the boys in individual singing.

From this it is evident that Jack will be able to work successfully with the groups of lower ability in the seventh grade. He will need a little more individual coaching than most of the members of the group. Since he is reported outstanding as a

¹ Terman, L. M., *The Measurement of Intelligence*, p. 76, Houghton Mifflin Co., 1916.

music student, there is indication that he will be able to do work along this line in average or even better groups in the junior high school. Because of the probability of malnutrition or other health difficulties, suggested by the fact that Jack is 20 per cent underweight, particular watchfulness over Jack's health should be exercised.

Mentally Retarded Pupils

One important question the teacher may ask herself is: Is it possible that some of these pupils are so retarded mentally that, from the beginning of their schooling, they should have been given a markedly different type of curriculum from that offered to normal boys and girls? Unless the school system has very definite provision for sorting out such boys and girls, one such pupil will be found on the average in each class of forty elementary pupils.

An intelligence quotient of 70 or less is commonly taken as one of the indications of this need. The third pupil in the thirteen-year-old or older group discussed in the last section, falls in this class. She is the only pupil shown in Illustration 3 who has an intelligence quotient below 70. She has an intelligence quotient of 69 and an educational quotient of 67. She is fourteen and one half years of age and is achieving on the average below the standard for her mental age, which is 10 years. If an individual test confirms this low rating, this pupil should be placed in a special class.

While such a pupil should have a special program developed for mentally retarded pupils, she should be placed in a group of her own physical age. This class should be housed in the junior high school. The program of the members of the group may be varied, whenever possible, by the introduction of work with regular classes.

This pupil comes from a good home environment and rates high in language usage, history and literature. and nature

study and science. A part of her difficulty may result from physical defects rather than mental defects. This possibility should be thoroughly investigated.

It should, of course, be unnecessary for a fifth-grade teacher to discover such a case. Such pupils should be properly classified as soon as possible after entering school in order that they may have the advantage of an educational program fitted to their needs. Such pupils can be discovered soon after entering school by means of group intelligence tests, checked by individual intelligence tests, and complete physical examinations. A teacher will discover any errors in classification in these small groups by exercising proper care, watching pupil performance in special classes, and retesting and following up health.

The teacher in the lower grades should therefore recommend the thorough testing of those pupils with whom he has special difficulty. If he sees fit to give the simple group tests for his own use in instruction, he will be all the more successful in segregating cases for further testing.

Overage Pupils Who Should Be Given Special Promotions

Among the boys and girls who are above normal age for their grades but have not yet reached junior-high-school age, some may be discovered who can skip a grade successfully. When it is realized that in many school systems half of the children have been required to repeat one or more times before they reach the fifth grade, we know that there must be many able children who are overage because of repeating. Add to this group those who have lost schooling because of illness, and those who started school at seven or eight years of age or older, and we must expect to find a considerable number of overage boys and girls perfectly capable of making up lost ground.

How to determine when a pupil is overage.—When the information for each pupil is assembled on such a form as Chart 1, page 46, the overage pupils can be located readily by inspecting

the graph at the bottom of the card. For example, in Chart 1 the chronological age is shown as 13 years and 0 months. A comparison of the pupil's age with the vertical line that represents the standard for the grade shows whether or not the pupil is overage. If the pupil's graph crosses the chronological age scale at the right of the vertical line, the pupil is overage. In schools having semiannual promotions, those cases should be included where the pupil's graph and the standard meet on the chronological age line. It will be noted that this occurs in Chart 3, page 64. The amount of overageness can be easily estimated, inasmuch as the line is divided into year units. For example, the pupil in Chart 1 is approximately 2 years overage.

The schedules given in Table 5 are helpful in interpreting overageness as obtained from the scale on Chart 1. They make

TABLE 5

INTERPRETATION OF OVERAGENESS FROM THE PROFILE SCALE

The Number of Terms below Normal Grade Indicated by Various Amounts of Overageness, as Interpreted from the Scale Given in Chart 1

SCHEDULE A.¹ SEMIANNUAL-PROMOTION SCHOOLS

Months Overage	Terms below Normal Grade (Half Years)
Less than 3	1
3-8	2
9-14	3
15-20	4
21-26	5

SCHEDULE B.¹ ANNUAL-PROMOTION SCHOOLS

Months Overage	Terms below Normal Grade (Years)
Less than 3	0
3-14	1
15-26	2
27-38	3

¹ These schedules apply only to overageness as determined by the scale of ages and grades given in Chart 1, page 46. They include adjustments to the variation in the relationship between the scales from that commonly used. They do not apply, therefore, to overageness as obtained from Table 6, discussed later in this section.

it possible to show how many terms a pupil is below his normal grade. A pupil 2 months overage in a semiannual-promotion school is, according to Schedule A, one term, or one half year, below grade. If he is in an annual-promotion school, he should not be considered below grade, as indicated in Schedule B. The pupil whose record is shown in Chart 4, page 65, being between 3 and 8 months overage in a semiannual-promotion school, is two half-year terms below her normal grade. Were she in an annual-promotion school she would be considered one full-year term below her normal grade.

In case the information about the pupils is not assembled on profile cards similar to Chart 1, Table 6, page 58, may be used. This table gives a certain amount to subtract from a pupil's age according to the grade in which he is enrolled. For example, to find the overageness of a fifth-grade pupil in an annual-promotion school, subtract the amount opposite Grade 5 in the annual-promotion table from his actual age on September 1 of the school year. The amount to subtract in this case is 10 years and 9 months. A pupil who was 11 years and 2 months old on September 1, would be 5 months overage; that is, 11 years and 2 months less 10 years and 9 months. Since the pupil whose record is shown in Chart 4, page 65, began the high-fifth grade at the beginning of the spring term, we should compute her age as of March 1. Her age as given is her age at the time the tests were given, near the end of January. On March 1 she would be one month older. Her age therefore on March 1 is 11 years and 5 months. If we subtract the amount opposite 5 high, or 10 years and 9 months, from this, we find that she is 8 months overage.

The amount of overageness thus obtained does not agree exactly with the result one would obtain from the scale on the chart. It must be interpreted differently. Table 7, page 59, which is similar to Table 5, gives a basis for interpreting the results.

TABLE 6

A METHOD OF DETERMINING OVERAGENESS

Any Pupil Who at the Beginning of the Term (September 1 or March 1¹)
was of Greater Age than that Indicated Opposite his Grade,
is Overage for the Grade

A SCHOOLS HAVING MIDYEAR ENTRANCE CLASSES (SEMIANNUAL-PROMOTION SCHOOLS)			B SCHOOLS HAVING NO MIDYEAR ENTRANCE CLASSES (ANNUAL-PROMOTION SCHOOLS)		
Grade	Years	Months	Grade	Years	Months
Junior Kindergarten ² Low	4	— 3			
High	4	— 9			
Kindergarten Low	5	— 3	K	5	— 9
Kindergarten High	5	— 9			
1 Low	6	— 3	1	6	— 9
1 High	6	— 9			
2 Low	7	— 3	2	7	— 9
2 High	7	— 9			
3 Low	8	— 3	3	8	— 9
3 High	8	— 9			
4 Low	9	— 3	4	9	— 9
4 High	9	— 9			
5 Low	10	— 3	5	10	— 9
5 High	10	— 9			
6 Low	11	— 3	6	11	— 9
6 High	11	— 9			
7 Low	12	— 3	7	12	— 9
7 High	12	— 9			
8 Low	13	— 3	8	13	— 9
8 High	13	— 9			
9 Low	14	— 3	9	14	— 9
9 High	14	— 9			
10 Low	15	— 3	10	15	— 9
10 High	15	— 9			
11 Low	16	— 3	11	16	— 9
11 High	16	— 9			
12 Low	17	— 3	12	17	— 9
12 High	17	— 9			

¹ March 1 is used for the second term of a midyear-promotion school, regardless of the actual date at which the term begins.

² Some schools offer two years of kindergarten. The first year is designated here as junior kindergarten.

TABLE 7

INTERPRETATION OF OVERAGENESS COMPUTED BY USE OF TABLE 6

The Number of Terms below Normal Grade Indicated by Various Amounts of Overageness as Computed by Use of Table 6¹

SCHEDULE A. SEMIANNUAL-PROMOTION SCHOOLS

Months Overage	Terms below Normal Grade (Half Years)
1-5	1
6-11	2
12-17	3
18-23	4
24-29	5

SCHEDULE B. ANNUAL-PROMOTION SCHOOLS

Months Overage	Terms below Normal Grade (Years)
1-11	1
12-23	2
24-35	3

¹ If overageness is estimated from the profile card, use Table 5, p. 56.

Analysis of the records of overage pupils. — When the records of a class are assembled on cards similar to Chart 1, page 46, it is a matter of only a few moments to sort out the cards of all the overage pupils. The class shown in Illustration 3, facing page 33, is from a semiannual-promotion school. To sort out the overage pupils, it was only necessary to choose those cards in which the pupil's graph or profile line crossed the chronological age line at, or at the right of, the vertical grade line. There were eighteen such cases besides the three already dealt with in this chapter (pages 47-55). The amount of overageness in months, estimated from the profile card, together with the half-year terms below the grade as interpreted from Table 5, is given for each case in Table 8, page 60.

The eleven boys and girls whose names are listed above the horizontal dotted line in Table 8 are at least two half-grades below their normal grade. The other seven are a single half-grade

below their normal grade. The first eleven are, therefore, the ones that need the most serious attention.

TABLE 8
OVERAGE PUPILS IN A HIGH-FIFTH-GRADE CLASS

OVERAGE PUPILS	AMOUNT OVERAGE IN MONTHS ¹	HALF-YEAR TERMS BELOW GRADE ²
James	16	4
Katherine	10	3
Jane	8	2
Geraldine	7	2
Iris	6	2
Alfred	5	2
Anna	5	2
Martha	4	2
John	4	2
Doris	4	2
Grace	3	2
Ralph	2	1
Bert	2	1
George	1	1
Joan	1	1
Annabelle	1	1
Mary	1	1
Eugene	0	1

¹ Obtained from pupil profile cards similar to Chart 1, p. 46.

² Obtained by use of Table 5, p. 56.

Next we must raise the question as to who is able to go ahead. To answer this question we must have information along at least two important lines. We must have some measure of the pupil's native ability. There is almost always some measure of class work obtainable from school records, and many schools ask teachers to rate pupils according to ability. If a pupil is of better than average brightness (above 100 I. Q. or E. Q.), we may expect him to be able to advance more rapidly than other pupils, even against handicaps of poor achievement; that is, pupils with better than average ability are often able to skip a grade even though their school work has not been exceptional.

On the other hand, some pupils who are above the grade standards in their school subjects may be able to skip a grade even though they may have less than average intelligence.

In addition to measures of brightness, it is necessary to have some measure of the pupil's standing in school subjects. The profile cards (similar to Chart 1, page 46) of these pupils whom we are discussing, together with the test results, give all these types of measures: ability ratings by previous teachers, intelligence quotients, educational quotients, standings in various subjects as measured by standard tests, and an average-achievement or educational-age score.

Of the overage pupils under consideration, those rated by their previous teachers as in the best five of their section in mental ability or in achievement in one or more subjects, are shown in Table 9.

If this were the only information available, we should judge that Annabelle and Joan alone would be able to go into the next higher grade.

TABLE 9

SUPERIOR RATINGS GIVEN OVERAGE PUPILS IN TABLE 8 BY THE TEACHER OF THE PREVIOUS SEMESTER — GRADE HIGH 5

PUPILS	POINTS IN WHICH THIS PUPIL WAS RATED BY HIS LAST-TERM TEACHER AS AMONG THE BEST FIVE OF THE GROUP	POINTS IN WHICH THIS PUPIL WAS RATED BY HIS LAST-TERM TEACHER AS AMONG THE POOREST FIVE OF THE GROUP
Annabelle	General ability Language usage Freehand drawing Arithmetic Spelling	(none)
Joan	General ability Attitude toward work Leadership Language usage Freehand drawing Arithmetic	(none)
Ralph	Freehand drawing	(none)
Martha	Freehand drawing Music	(none)

From the test results we can obtain more reliable measures of brightness and achievement. It takes but a few moments to go over the profile cards of our overage pupils. An instant's inspection of a card will show whether a pupil has an I. Q. or an E. Q. of more than 100, or whether the pupil's graph or profile line crosses the achievement-average line at the right of the vertical (grade-standard) line. If either the I. Q. or the E. Q. is more than 100 or if the average achievement is above standard, the card should be withdrawn for further consideration, as the pupil may be a case for special promotion. The pupil shown in Chart 3, page 64, is obviously a case for consideration because both I. Q. and E. Q. are above 100. The pupil in Chart 6, page 68, is a case for consideration because his E. Q. is above 100.

Nine of the eighteen overage pupils shown in Table 8, page 60, demand further consideration after this inspection. Table 10 gives the I. Q., E. Q., and educational age (average achievement) for each of these nine pupils. How these were obtained from the profile cards may be seen by comparing the entries for Joan in Table 10 with Joan's profile card as shown in Chart 3, page 64.

TABLE 10

THE BRIGHTNESS AND ACHIEVEMENT OF NINE OVERAGE PUPILS IN A HIGH-FIFTH-GRADE CLASS WHO ARE BETTER THAN AVERAGE AS INDICATED BY A BRIGHTNESS MEASURE OR AVERAGE ACHIEVEMENT

PUPIL	INTELLIGENCE QUOTIENT	EDUCATIONAL QUOTIENT	EDUCATIONAL AGE COMPARED WITH STANDARD
Alfred.	88	101	6 months above
Anna	113	110	1 year, 6 months above
Martha	111	96	3 months <i>below</i>
John	107	103	7 months above
Ralph	104	111	1 year, 3 months above
Bert	106	103	5 months above
George	111	108	10 months above
Joan	126	113	1 year, 5 months above
Annabelle . . .	109	102	3 months above

It will be noted that her I. Q. and E. Q. were copied directly from the card. *The educational age compared with the standard*, however, was obtained by noting that the pupil's profile line crossed the achievement-average line approximately 1 year and 5 months above standard.

Of these nine pupils only one — Martha — is below standard for the present grade in the subject tests. Joan and Anna are a grade and a half above the standard of the present grade. Ralph is a year ahead. George is almost a year ahead. John and Alfred are a half year ahead. Annabelle, who would have been chosen on the basis of teacher judgment, is one of the two cases for whom there is the least basis for special promotions.

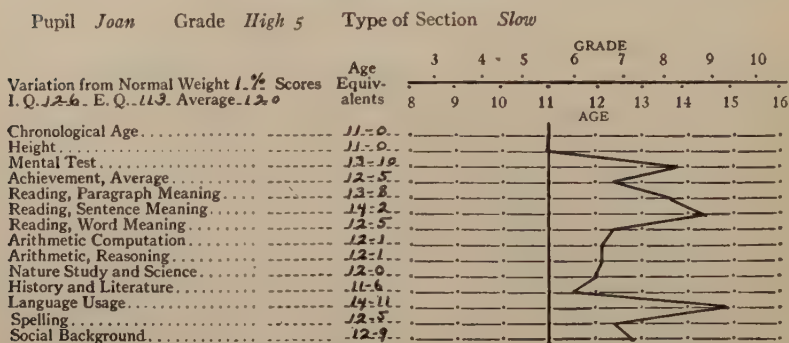
These facts alone are sufficient to indicate that Joan, Anna, Ralph, and George are cases for special promotion. The less apparent cases require further study of the individual profile card. This further analysis suggests that both John and Alfred should be given a trial.

The remainder of this section gives the analysis of five of the pupils in Table 10. As a matter of actual practice, it is necessary to make a detailed study of each individual who is to be given a special promotion, in order to discover what individual attention is necessary.

Joan is the most outstanding case for special promotion. Chart 3 compares her standing on the test with the standards for her present grade. She exceeds standards by a year or more in all subjects except history and literature. She is at present a member of a slow section of the high-fifth grade. Her teacher reports her as being outstanding in general ability, attitude toward work, leadership, language usage, freehand drawing, and arithmetic. The school has not supplemented her program in any way. She was, however, permitted to skip the low-second grade. She hopes to go to high school and college and become a school-teacher. At the present time she takes private music lessons. She spends a part of her time in the public library.

CHART 3¹

The record of a high-fifth-grade girl who needs special promotion and an enriched school program



The broken line represents Joan's record.

The vertical line shows the standard for the high-fifth grade.

Note: Joan's teacher rates her as one of the best five in her class in general ability, attitude toward work, leadership, language usage, freehand drawing, and arithmetic.

There can be no question about Joan's ability to skip a term. The real question is how the teacher of her class can give her the subjects necessary to challenge her abilities after she has gone through a short adjustment period. Since Joan will no longer be overage, the question of further special promotion comes under the discussion in Chapter IV, page 143.

Chart 4 gives the educational record of Anna. She is slightly more overage than Joan and considerably larger for her age. She is as tall as the average beginning seventh-grade girl. On the average, her school achievement is not so high as Joan's, and there is considerable variation from subject to subject. She reads on the eighth-grade level, but her arithmetic achievement is only a half year ahead of her present grade. In nature

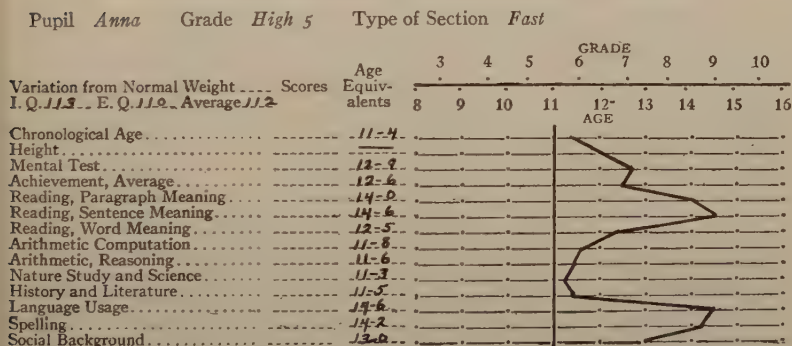
¹ In this and succeeding presentations of pupil data only the profile part of the record is reproduced. Other items of information from the complete form given in Chart 1 are given in the text when considered pertinent to the case.

study and science and in history and literature she is low. In language usage and spelling she made a better record than that expected of the average beginning eighth-grade pupil. Anna's work next semester might well be given a distinctly individual trend. A program that would relieve her from formal work in language, spelling, and reading and provide for special reading along the lines of nature study, history, and literature on the one hand, and for special attention in arithmetic on the other, would serve to strengthen her weak points. If she proves to be strong enough, an opportunity to take piano lessons might well be offered her. Anna comes from a very large family in moderate circumstances. She does some work for pay after school. The nature of this work should be investigated. The fact that Anna is large for her age may lead to overloading, if her whole program is not watched by the school.

If Anna continues to show superiority she may be passed into the junior high school at the end of the half year.

CHART 4

An overage girl who should be given a special promotion



The broken line represents Anna's record.

The vertical line shows the standard for the high-fifth grade.

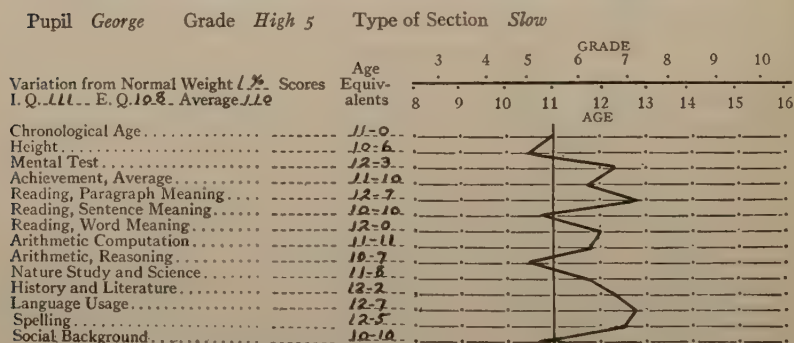
Note: This pupil's program has not varied from the program of the section of which she is a member.

IND. PUPIL — 5

George is one of those pupils whose ability and achievement are underestimated. Although only one boy in five of his age is more able than George to do school work, he is placed in a slow section of his class. In spite of this placement his teacher does not rate him as outstanding in ability or achievement in any subject. On the contrary, she rates him among the lowest five in his class in attitude toward work, spelling, and music. His educational record shown in Chart 5 indicates that he is doing better work on the average than half the pupils in the next higher half-grade. He fails to exceed the standard of his present grade

CHART 5

A boy whose abilities and achievement have been underestimated



The broken line represents George's record.

The vertical line shows the standard for the high-fifth grade.

Note: George's teacher rates him as among the poorest five in his class in attitude toward work, spelling, and music. The teacher in charge of the school library reports that she finds it difficult to interest George. The only individual attention that George has received is from the library teacher. She has followed the practice of seeking out books that will interest him.

by as much as half a year only in reasoning in arithmetic and sentence meaning in reading. Probably neither of these is fundamentally serious, since in the understanding of paragraphs he is a year and a half above his present grade standard. School

has lost its appeal to George. The performance of the day-to-day assignments given by the teacher has begun to seem unnecessary to him. He has somehow realized that he has already attained much of the educational progress which the performance of these assignments is supposed to bring to him. He is well started on the road which leads to serious disciplinary trouble.

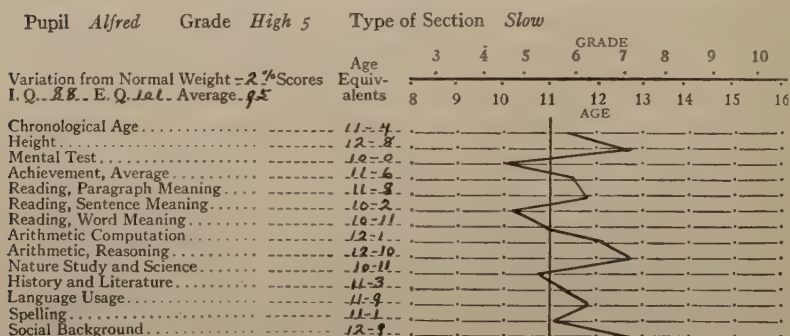
George is not at all a rare case. The writer has never failed to discover one or more such cases in every careful analysis he has made of the status of school children. One of the brightest boys with whom the writer has ever dealt in such studies, was a sixth-grade boy who was considered only average in achievement and ability. He had begun to take attendance at school in his own hands. He played little with other children and was evasive in his manner. In other words, he had begun to lose interest in school and to develop nonsocial habits. From all indications, had this pupil not been discovered, not only would it have meant a limited educational opportunity for him, but also a loss to society of the contributions which he will probably make.

The cause of George's present difficulty and of the similar difficulties of many able boys and girls, is the failure of the school to provide educational opportunities which challenge the best which such pupils have to offer. There are indications that boys develop such undesirable attitudes more frequently than girls. The one step which the school can take immediately in the case of George is to give him an extra promotion. He is socially immature and small for his age. From this standpoint only can a special promotion be considered as experimental. George is perfectly capable of taking it. As a result it is probable that he will develop a more vital interest in school. Since he is considerably ahead of standard in spelling, he may well be excused from it until he becomes adjusted to the new situation. The extra time may be spent upon reasoning in arithmetic and in work he will have missed by skipping the high-fifth grade.

Chart 6 gives the record of Alfred. From this we see that he is particularly strong in arithmetic and that he made a good showing as far as the most important reading test was concerned. With particular attention to vocabulary and spelling he will doubtless be able to do strong work in the sixth grade. In the light of this he may well be given a special promotion. The fact that Alfred is exceptionally large for his age and well developed socially, is further support of this conclusion.

CHART 6

A boy of average ability who should be given a special promotion



The broken line represents Alfred's record.

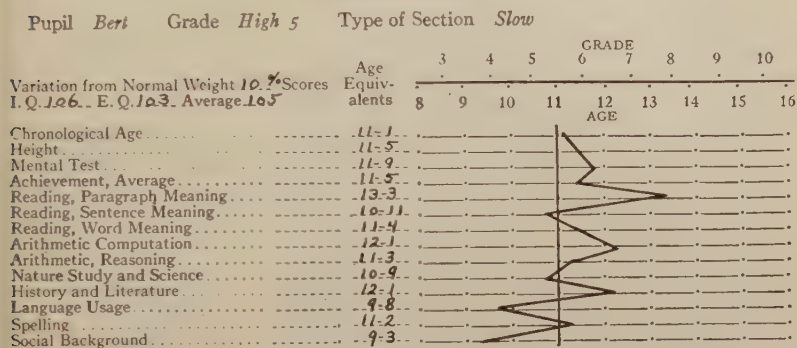
The vertical line shows the standard for the high-fifth grade.

Note: The physical-training teacher reports that Alfred lacks control and ability.

The case for Bert is not so promising. Although he stands high in interpretative reading, as may be seen in Chart 7, he is low in reasoning in arithmetic, — an item in which Alfred was strong. He is small and not so well developed socially as Alfred. The difference between the two is, therefore, greater than the difference in achievement would seem to indicate. An attempt to interest him in the possibilities of future special promotion may serve to challenge his better-than-average native ability.

CHART 7

A boy who should be interested in the possibility of special promotion in the near future



The broken line represents Bert's record.

The vertical line shows the standard for the high-fifth grade.

Note: Bert's teacher rates him as among the poorest five in her class in freehand drawing.

PROBLEM 3

PREPARING INFORMATION FOR ANALYSIS

When tests have been given and scored, the task remains of putting the results in such form that they, together with other information, will indicate most directly the needs of individuals. (The blank form for use with this problem is printed, for convenience, on pages 70-71.)

On October 14 and 15, 1926, a sixth-grade teacher gave his pupils the Stanford Achievement Test, the McCall Multi-Mental Intelligence Test, and National Intelligence Test, and had them write a composition upon the subject — *The Most Exciting Ride I Ever Had*. He scored the composition by use of the Hudelson English Composition Scale,¹— and the penmanship by use of the Thorndike Handwriting Scale.²

¹ Published by the World Book Company, Yonkers-on-Hudson, N. Y.

² Published by Bureau of Publications, Teachers College, Columbia University, New York, N. Y.

Form for use with Problem 3, pages 69, 72.

Pupil	Date	Grade	Boy Girl
Address	Tel. No.	Home Room	Parent
School	Teacher		
Date of Birth	Height	Weight	
Entrance grade in this school system	Entrance grade in this school		
Grades skipped	Grades repeated	Half years spent in kindergarten	College?
What does he want to do when he finishes school?	Does pupil expect to go to high school?		
Does he take music lessons outside of school?	Other lessons, if any, outside of school?		
Member of the following school teams or other organizations:			
Outside organizations:			
What musical instruments?			
What magazine does he read most?	How is out-of-school time spent?		
himself?	Is there a room in the home where he can study by		
public library?	Has he a card for the		
in the home?	What language is spoken		
Specific Weaknesses	How many books in the home?		
Physical Defects			
Too mature socially for this group?	Too immature?		Does the program of this
pupil vary from that of the class as a whole in any manner?			
Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success)			
Variations from section program at any time in past (give grade, type of section, and nature of variation)			
Any other irregular features in this pupil's school history			

Form for use with Problem 3, pages 69, 72 (*continued*)

Enrollment in this class		Type of class	
Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:			
1. General Ability	5. Leadership	9. Frechand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	

	Variation from Normal Weight	Scores	Age Equivalents	GRADE													
				3	4	5	6	7	8	9	10	11	12	13	14	15	16
I. Q.----- E. Q.----- Average----																	
Chronological Age.....																	
Height.....																	
Mental Test.....																	
Achievement, Average.....																	
Reading, Paragraph Meaning.....																	
Reading, Sentence Meaning.....																	
Reading, Word Meaning.....																	
Arithmetic Computation.....																	
Arithmetic Reasoning.....																	
Nature Study and Science.....																	
History and Literature.....																	
Language Usage.....																	
Spelling.....																	

Pupil's Record-----Record of Section to which assigned.

Use vertical line to represent grade standard.

A few days before, the school nurse had weighed and measured each pupil.

The results for one girl who had just entered this school were as follows:

Height — 60 inches	
Weight — 93 pounds	
National Test Score 131 (Mental age, 14-2)	
McCall Multi-Mental Intelligence Test Score — 320	
Stanford Achievement Test Scores	
Reading, Paragraph Meaning	74
Reading, Sentence Meaning	42
Reading, Word Meaning	70
Arithmetic Computation	110
Arithmetic, Reasoning	95
Nature Study and Science	59
History and Literature	60
Language Usage	34
Spelling (Dictation)	144
Total Stanford Achievement Scores	688
Composition, Grade Scores	7.0
Handwriting, Grade Scores	9.0

This pupil was born on January 12, 1914, had never attended kindergarten and had never been required to repeat or permitted to skip a grade. This pupil at the time expected to go to high school and college and hoped to become a teacher. She took private music lessons, and was a member of the girl scouts. She wore glasses. She was not considered a misfit socially for the group of which she was a member. She was enrolled in the only sixth-grade section in the school. Her teacher the preceding term rated her B in everything but freehand drawing and spelling. The mark she received in drawing was C and in spelling A.

Assignment: Enter the information given on the form on pages 70-71, and give your judgment on the educational adjustment needed for this pupil.

PROBLEM 4

PLACEMENT OF OVERAGE PUPILS

It is not unusual for a teacher in the elementary grades to find from two to five markedly overage pupils in his class. The question of proper placement in the school organization should be raised in each such case.

The following eight pupils represent schools in four states:

1. Girl — Grade Five High — Semiannual-Promotion School

School _____ Teacher _____
 Date of Birth 11/07/1915 Height 63" Weight 65½
 Entrance grade in this school system 1 Entrance grade in this school 1
 Grades skipped 1 Grades repeated no Half years spent in kindergarten _____ Does pupil expect to go to high school? yes College? yes
 What does he want to do when he finishes school? Penographer
 Does he take music lessons outside of school? yes Other lessons, if any, outside of school? _____
 Member of the following school teams or other organizations: _____
Music Study Club Outside organizations: _____
 What musical instruments? france
 What magazine does he read most? Collier How is out-of-school time spent? practice - play
 Is there a room in the home where he can study by himself? yes What kind of music does he like best? france Has he a card for the public library? no Times each week spent at the movies? 1 What language is spoken in the home? French and English How many books in the home? few
 Specific Weaknesses _____
 Physical Defects Teeth
 Too mature socially for this group? no Too immature? no Does the program of this pupil vary from that of the class as a whole in any manner? no
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) no
 Variations from section program at any time in past (give grade, type of section, and nature of variation) _____
 Any other irregular features in this pupil's school history _____

Enrollment in this class 12 Type of class 7 section
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

- | | | | |
|-------------------------|---------------------------|---------------------|---------------|
| 1. General Ability | 5. Leadership | 9. Freehand Drawing | 13. Spelling |
| 2. Mechanical Ability | 6. Reading | 10. Arithmetic | 14. Music |
| 3. Attitude toward Work | 7. Nature Study & Science | 11. History | 15. Shop Work |
| 4. Health | 8. Language Usage | 12. Literature | |

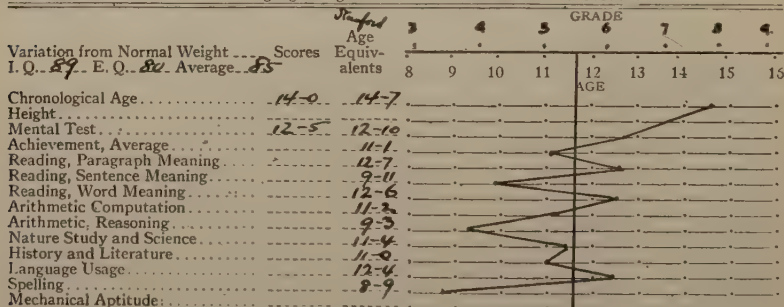
[illegible]

2. Boy — Grade Five High — Semiannual-Promotion School

Date of Birth... 11/15/1912 Height... 56" Weight... 81
 Entrance grade in this school system... 1st Entrance grade in this school... 4th
 Grades skipped... none Grades repeated... 4th Half years spent in kindergarten... none Does pupil expect to go to high school? yes College? doubtful
 What does he want to do when he finishes school? Engineer on railroad
 Does he take music lessons outside of school? no Other lessons, if any, outside of school? none
 Member of the following school teams or other organizations: Health Club
 Outside organizations: none
 What musical instruments? none
 What magazine does he read most? None How is out-of-school time spent? Reading newspapers
 Is there a room in the home where he can study by himself? no What kind of music does he like best? Soft Has he a card for the public library? no Times each week spent at the movies? not often What language is spoken in the home? English How many books in the home? none
 Specific Weaknesses: none
 Physical Defects: none mentally low
 Too mature socially for this group? no Too immature? no Does the program of this pupil vary from that of the class as a whole in any manner? no
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) no
 Variations from section program at any time in past (give grade, type of section, and nature of variation)

Any other irregular features in this pupil's school history

Enrollment in this class... 40 Type of class... normal
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 ① General Ability 5. Leadership 9. Freehand Drawing 13. Spelling
 2. Mechanical Ability 6. Reading ⑩ Arithmetic 14. Music
 ③ Attitude toward Work 7. Nature Study & Science 11. History 15. Shop Work
 4. Health 8. Language Usage 12. Literature



3. Boy — Grade Five Low — Semiannual-Promotion School

Date of birth 12/1/14 Present Age 14 Years and 1 months Entrance grade in this school system L4
 Entrance grade to this school L4 Half years spent in kindergarten 0 Grades skipped 0
 Grades repeated L5 Do you expect to go to high school? No College? No What do you
 want to do when you finish school? Do you take music lessons outside of school?
 Other lessons, if any, outside of school None Member of the following school
 teams or other organizations None Outside organizations No

Enrollment of this class 37 Type of class Star L5 Nov
 Draw a line through each item in which this pupil is one of the best 5 in his class, encircle each item in which this pupil is one of the poorest 5 in his class.
 1. General ability 4. Health 7. Nature Study and Science 10. Arithmetic 13. Spelling
 2. Mechanical ability 5. Leadership 8. Language Usage 11. History 14. Music
 3. Attitude toward work 6. Reading 9. Freehand Drawing 12. Literature 15. Shop Work

Physical defects of this pupil: None Does the program of this pupil vary from that of the class as a whole, either in subjects, assigned activities, or assignments? No (Specify on Reverse)

Variation from Normal Weight	99	Age	3	4	5	6	7	8	9	10	Grade
I.Q. <u>63</u> E.Q. <u>66</u> Average <u>68</u>	Scores	Equivalents	8	9	10	11	12	13	14	15	16
Chronological Age <u>14-1</u>		<u>14-1</u>									
Height <u>14-2</u>		<u>14-2</u>									
McCall Multi-mental Test, Form I. <u>74</u>		<u>8-10</u>									
Stanford Achievement, Advanced, Form A. <u>26</u>		<u>9-4</u>									
Reading, Paragraph Meaning <u>18</u>		<u>8-6</u>									
Reading, Sentence Meaning <u>8</u>		<u>8-4</u>									
Reading, Word Meaning <u>6</u>		<u>8-2</u>									
Arithmetic, Computation <u>100</u>		<u>11-8</u>									
Arithmetic, Reasoning <u>34</u>		<u>9-2</u>									
Nature Study and Science <u>21</u>		<u>8-9</u>									
History and Literature <u>6</u>		<u>9-8</u>									
Language Usage <u>1</u>		<u>8-9</u>									
Dictation Spelling <u>42</u>		<u>8-9</u>									
Stenquist Mechanical Aptitude, Test I. <u>13</u>		<u>8-5</u>									
Social Background											

In answer to certain questions, this pupil gave the number of books in his home as five, and said there was no piano in his home; he did not like to go to school; there was no room at his home where he could study undisturbed; he had no card for the public library.

4. Boy — Grade Five Low — Semiannual-Promotion School

Date of birth Dec. 10 Present Age 13 Years and 2 months Entrance grade in this school system L1
 Entrance grade to this school here Half years spent in kindergarten 0 Grades skipped 0
 Grades repeated L4 L5 Do you expect to go to high school? No College? No What do you
 want to do when you finish school? SAILOR Do you take music lessons outside of school? No
 Other lessons, if any, outside of school No Member of the following school
 teams or other organizations: None Outside organizations: Yes

Enrollment of this class 37 Type of class low Dec. 54-2 Slow
 Draw a line through each item in which this pupil is one of the best 5 in his class, encircle each item in which this pupil is one of the poorest 5 in his class:
 1. General ability 4. Health 7. Nature Study and Science 10. Arithmetic 13. Spelling
 2. Mechanical ability 5. Leadership 8. Language Usage 11. History 14. Music
 3. Attitude toward work 6. Reading 9. Freehand Drawing 12. Literature 15. Shop Work

Physical defects of this pupil Adenoids, Tonsils, Teeth, Nature Does the program of this pupil vary from that of the class as a whole, either in subjects, assigned activities, or assignments? No (Specify on Reverse)

Variation from Normal Weight	90	Age	3	4	5	6	7	8	9	10	Grade
I.Q. <u>72</u> E.Q. <u>81</u> Average <u>77</u>	Scores	Equivalents	8	9	10	11	12	13	14	15	16
Chronological Age <u>13-3</u>		<u>13-3</u>									
Height <u>13-9</u>		<u>13-9</u>									
McCall Multi-mental Test, Form I. <u>26</u>		<u>9-4</u>									
Stanford Achievement, Advanced, Form A. <u>37</u>		<u>10-9</u>									
Reading, Paragraph Meaning <u>62</u>		<u>11-10</u>									
Reading, Sentence Meaning <u>48</u>		<u>12-11</u>									
Reading, Word Meaning <u>37</u>		<u>11-3</u>									
Arithmetic, Computation <u>36</u>		<u>8-8</u>									
Arithmetic, Reasoning <u>68</u>		<u>12-5</u>									
Nature Study and Science <u>48</u>		<u>12-6</u>									
History and Literature <u>17</u>		<u>11-0</u>									
Language Usage <u>10</u>		<u>10-2</u>									
Dictation Spelling <u>44</u>		<u>8-10</u>									
Stenquist Mechanical Aptitude, Test I. <u>19</u>		<u>9-10</u>									
Social Background											

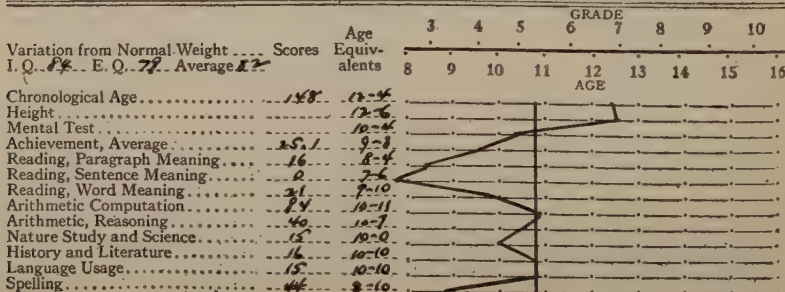
This boy gave the number of books in his home as 60, and said there was no piano and no bath tub in his home, he did not sleep with his window open, he had no card for the public library, the music he liked best was drum, his father had not attended high school.

5. Girl — Grade Five — Annual-Promotion School

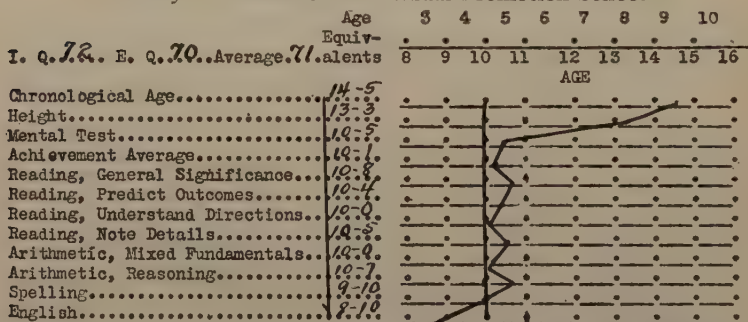
Grades skipped.....None..... Grades repeated.....1-2..... Half years spent in kindergarten.....
 Does pupil expect to go to high school?.....Yes..... College?.....No
 What does he want to do when he finishes school?.....Plumber
 Does he take music lessons outside of school?.....No..... Other lessons, if any, outside of school?.....
Swimming Member of the following school teams or other organizations:.....
 Outside organizations:.....
 What musical instruments?.....
 What magazine does he read most?.....at home..... How is out-of-school time spent?.....with
 Is there a room in the home where he can study by himself?.....No..... What kind of music does he like best?.....jazz..... Has he a card for the public library?.....Yes..... Times each week spent at the movies?.....1..... What language is spoken in the home?.....Italian-English..... How many books in the home?.....None

Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

- | | | | |
|-------------------------|---------------------------|---------------------|---------------------|
| 1. General Ability | 5. Leadership | 9. Freehand Drawing | 13. <u>Spelling</u> |
| 2. Mechanical Ability | 6. Reading | 10. Arithmetic | 14. Music |
| 3. Attitude toward Work | 7. Nature Study & Science | 11. History | 15. Shop Work |
| 4. Health | 8. Language Usage | 12. Literature | |



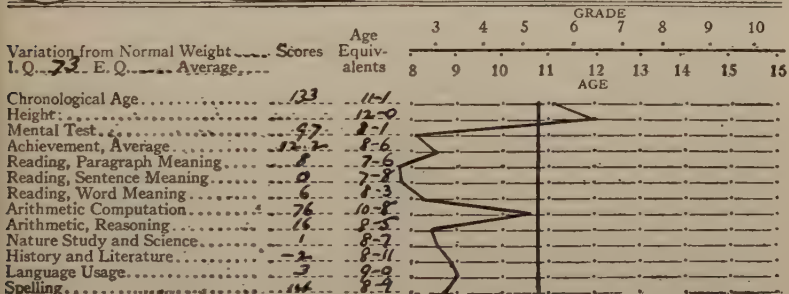
6. Boy — Grade Four — Annual-Promotion School



This pupil was considered neither particularly poor nor particularly good in fourteen of the fifteen items rated by the teacher. His attitude toward work was considered very poor. He wants to become a mechanic. His favorite magazine is *Popular Mechanics*.

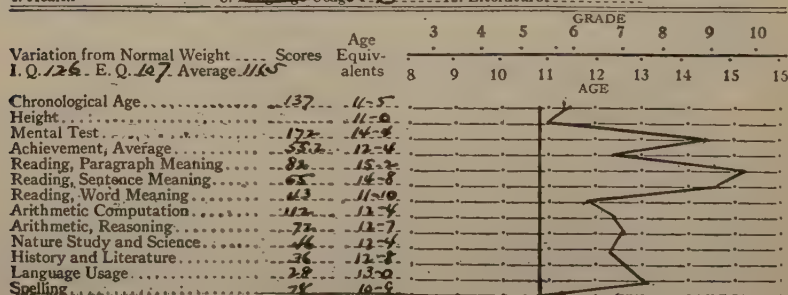
7. Boy — Grade Five — Annual-Promotion School

School _____ Teacher _____
Date of Birth: 11/20/1915 Height _____ Weight: 62 1/2
Entrance grade in this school system: 1 Entrance grade in this school: 5
Grades skipped _____ Grades repeated: 2 Half years spent in kindergarten _____
Does pupil expect to go to high school? Yes College? No
What does he want to do when he finishes school? Engineering
Does he take music lessons outside of school? No Other lessons, if any, outside of school? No
No Member of the following school teams or other organizations: _____
No Outside organizations: _____
What musical instruments? None
What magazine does he read most? American Boy How is out-of-school time spent? play
Is there a room in the home where he can study by himself? Yes What kind of music does he like best? Coronet Has he a card for the public library? No Times each week spent at the movies? 1 What language is spoken in the home? English How many books in the home? 50
Specific Weaknesses: None
Physical Defects: mal nutrition
Too mature socially for this group? No Too immature? No Does the program of this pupil vary from that of the class as a whole in any manner? No
Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) No
Variations from section program at any time in past (give grade, type of section, and nature of variation) None
Any other irregular features in this pupil's school history? No
Enrollment in this class: 43 Type of class: Average
Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
1. General Ability _____ 5. Leadership _____ 9. Freehand Drawing _____ 13. Spelling _____ F
2. Mechanical Ability _____ 6. Reading _____ B 10. Arithmetic _____ F 14. Music _____ E
3. Attitude toward Work _____ 7. Nature Study & Science _____ 11. History _____ F 15. Shop Work _____
4. Health _____ 8. Language Usage _____ F 12. Literature _____



8. Girl — Grade Five — Annual-Promotion School

School..... Teacher.....
 Date of Birth. 6/30/1915 Height..... Weight. 78
 Entrance grade in this school system..... Entrance grade in this school. 1
 Grades skipped. None Grades repeated. None Half years spent in kindergarten. None Does pupil expect to go to high school? Yes College? Yes
 What does he want to do when he finishes school? Teach
 Does he take music lessons outside of school? No Other lessons, if any, outside of school? No
 Member of the following school teams or other organizations:.....
 Outside organizations: Camp-fire
 What musical instruments? None
 What magazine does he read most? Am. Amicla How is out-of-school time spent?.....
Plays - helps at home Is there a room in the home where he can study by himself? Yes What kind of music does he like best? Piano Has he a card for the public library? No Times each week spent at the movies? Once What language is spoken in the home? English How many books in the home? 50
 Specific Weaknesses.....
 Physical Defects.....
 Too mature socially for this group? No Too immature? No Does the program of this pupil vary from that of the class as a whole in any manner? Yes
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success). No
 Variations from section program at any time in past (give grade, type of section, and nature of variation).....
 Any other irregular features in this pupil's school history.....
 Enrollment in this class. 47 Type of class. Average
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability..... 5. Leadership..... 9. Freehand Drawing B 13. Spelling A
 2. Mechanical Ability..... 6. Reading B 10. Arithmetic B 14. Music B
 3. Attitude toward Work..... 7. Nature Study & Science..... 11. History B 15. Shop Work.....
 4. Health..... 8. Language Usage B 12. Literature.....



Assignment: 1. These children were tested at various times during the year. From the position of the grade standard line, the vertical line, estimate the month in which each pupil was tested.

2. The E. Q. for pupil 7 is not given. Compute it.

3. The tests used in testing pupil 8 were not by the same author. There was no direct method for computing the average achievement or educational

age. Compute the educational age from the data given and compare with the result given as achievement average.

4. Recommend the placement that each of these pupils should have, if he were enrolled in some school with which you are familiar.

5. Give a general outline of the treatment you would expect each pupil to receive, whatever his placement.

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CHAPTER III

PLACEMENT OF PUPILS WITHIN THE SCHOOL ORGANIZATION — THE JUNIOR AND SENIOR HIGH SCHOOLS

THE junior-high-school grades in a traditional school. — Overageness as a source of placement problems is not confined to the elementary grades. Overage pupils continue to be a problem in the junior-high-school years. A pupil beginning the seventh grade of a traditional school at the age of fourteen should certainly, wherever his ability merits it, be given work with children of his own age — in the eighth or ninth grade. If his ability is low, less than normal emphasis should be placed upon ordinary school subjects, and a special attempt should be made to discover any special abilities or aptitudes for the school to help develop.

The boys and girls discussed below were found in a seventh-grade class of a traditional eight-grade school. The class is pictured in Illustration 7, facing this page.

Tony is one of the two boys over fourteen years of age. His record is given in Chart 8, page 81. He is 14 years and 11 months of age. He has an intelligence quotient of 76. He is now struggling with work far beyond his ability to master. As shown in Chart 8, he has attained the middle of the year's standard for the fifth grade in reading. He is exceptionally good in computation in arithmetic, but is very much below standard in reasoning in arithmetic.

It is obvious that the traditional school has little to offer such pupils as Tony. It would probably be of little value to them to go into the higher grade. The best treatment that can be given them in the traditional school is the development of individual

ILLUSTRATION 7
A SEVENTH-GRADE CLASS IN A TRADITIONAL SCHOOL

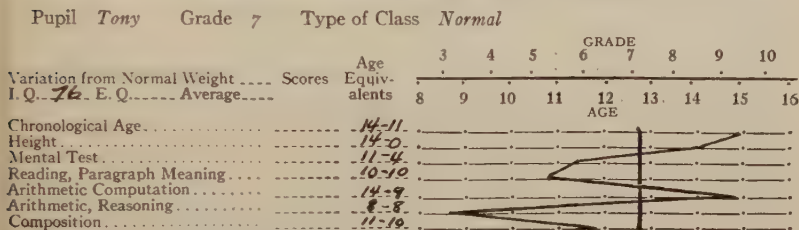


(Facing 80)

programs which will give them as much opportunity, other than the ordinary curriculum, as possible in the junior high school. The suggestions made in Chapter II, pages 47-54, on the treatment of the lower-grade pupils of junior-high-school age when there is no junior high school, apply to these cases.

CHART 8

A fifteen-year-old boy in the seventh grade of a traditional school



Note: Tony's teacher gave him a rating of *B* in reading, freehand drawing, arithmetic, and history and literature. He gave him a rating of *C+* or *C* in nature study and science, language usage, spelling, and music. He gave him *B+* in shop work. The only adjustment of which the school has any record is requiring Tony to spend two years in grade 4 and two years in grade 5.

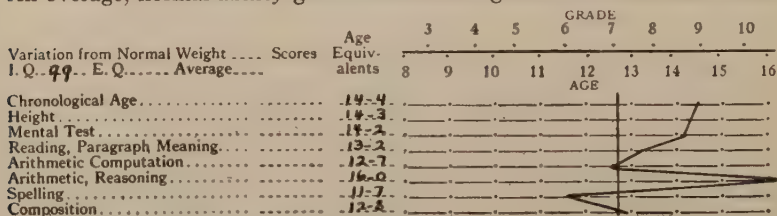
Where such pupils are found in a junior high school pursuing a regular seventh-grade course, in many cases it will be found desirable to place them in the special curriculum provided for pupils nearing the end of their school life. If such a curriculum is not available in the seventh grade, the individual-program plan should be resorted to. In this case the work on any grade level should be available in developing the individual programs.

Six of the girls shown in Illustration 7 are fourteen years of age or more. Of these six, three have intelligence quotients below 90. The achievement in school subjects is low in every case where the intelligence quotient is below 90, and in the case of one girl whose intelligence quotient is above 90. When she

entered this school in the sixth grade she was unable to read, write, or speak English. The treatment of these lower-ability pupils must be similar to that of the boys discussed above.

CHART 9

An overage, normal-ability girl in the seventh grade of a traditional school



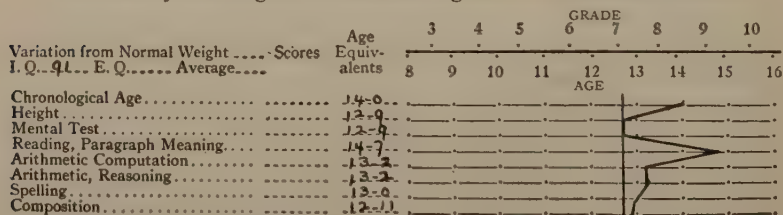
The broken line represents this girl's record.

The vertical line shows the standard for the seventh grade.

Note: This girl's teacher rated her *B* in spelling, *B* in reading, and *B* in literature. In the other subjects he rated her *C*. The only individual adjustment of which the school has a record is that of requiring her to repeat the second, fourth, and fifth grades. At the present time she is doing work with the lower section of the class of which she is a member. This girl wishes to become a teacher. She is a member of the girl scouts, likes classical music, and has a card to the public library.

CHART 10

A fourteen-year-old girl in the seventh grade of a traditional school



The broken line represents this girl's record.

The vertical line shows the standard for the seventh grade.

Note: This girl's teacher rated her as among the best five in her class in mechanical ability and attitude toward work. He rated this pupil's achievement in reading, language usage, arithmetic, history, literature, spelling, and music as *B*. He rated her achievement in nature study and science, freehand drawing, and hand work as *C*.

Charts 9 and 10 give the test records obtained on the two brightest of the overage girls. The pupil whose record is shown in Chart 9 is a case similar in some respects to that of George, Chart 5, page 66. The school is constantly underrating her and, accordingly, is not expecting enough of her. This is even more marked in the case of the pupil whose record is shown in Chart 10.

Placement of Pupils within Junior or Senior High School

In the school that is large enough to departmentalize instruction and to offer the variety of facilities of the modern junior high school, the adjustment of such cases as those discussed in the preceding section is greatly facilitated. The conditions that make the situation in the junior high school different from that in the traditional school are characteristic also of the modern senior high school.

The junior high school introduces a problem that has heretofore been limited to the high school — the problem of choosing among several paths or curricula the one to be given major emphasis. It advances the task of choosing among curricula from the end of the eighth year to the middle of the eighth year or to the end of the seventh year. Whether the task is that of helping a pupil to choose his path at the end, at the middle, or at the beginning of the eighth year, there are a number of issues that should be in the mind of the teacher.

In the elementary grades the tone of a curriculum and its purpose do not vary from pupil to pupil in any marked degree. With the approach of the completion of the elementary-school years, however, the problem of planning a course for pupils becomes more complex. Out of a group of pupils who have come together through the elementary grades, some few will complete high school and college. One of the outstanding services which part of this group must receive from the next few years of training is preparation for college entrance. They

will soon begin a course of training which will be more or less a continuous process through high school and college. Another section of this group will have little hope of training beyond high school. Their courses must be planned with this in mind. Still others can look forward to no more than three or four years of training. For these the beginning of a college preparatory course or a curriculum leading to graduation from high school will be of less value than the choice of a more rounded-out course planned with particular attention to their special needs. There are still others in the group who will have been placed there in spite of the fact that they have not satisfactorily completed the work of the lower grades — pupils who cannot do successfully much of the work that may be expected of those who have passed normally from grade to grade. In brief, the group for which any teacher in the seventh or eighth grade is responsible is made up of pupils of widely varying educational futures. The responsibility for guiding each pupil is one of the most important responsibilities that falls to the teachers of these grades.

The only need of marked variation in individual programs in the seventh grade is in the case of the type of pupils discussed in the preceding section (pages 80–83). The teacher should feel free to lay out for each such pupil a school program that will promise to make his year a profitable one. Throughout the year, however, the seventh-grade teacher should be on the alert to discover abilities and interests of pupils. To facilitate this, the course in the seventh grade should provide for a consideration of vocations and future educational opportunities. To whatever extent possible, pupils should be given first-hand contact with the nature of the work involved in various vocations and in possible educational courses.

The first demand upon the eighth-grade teacher is a continuation of the type of work done by the seventh-grade teacher. He must take the discoveries that have been made to date and

supplement them. He must become prepared for the time later in the term when his advice and decisions will become of utmost importance in determining the educational programs which various pupils will follow. One of the most important duties, then, that an eighth-grade teacher has to perform at the beginning of the school term is to take stock of the aids which the school records give him in making such decisions. Through such stock-taking he can discover where supplementary information is necessary.

Home-room or register teacher. — In the seventh and eighth grades of the departmentalized school the responsibility for collecting the information which will be helpful in guiding the pupil's choice of high-school curriculum is most commonly left to the home-room teacher. While he should take the responsibility for collecting and recording information, he will be greatly assisted in this work if other teachers are on the lookout for special abilities and interests of the pupils in their classes. Where the administration of the school does not provide for the reporting of such discoveries, the home-room teacher should take it upon himself to ask for such information.

There are five important considerations which should guide the home-room teacher in gathering information and giving advice on pupil programs. These are:

1. Probable length of time to be spent in further schooling.
2. Nature of the occupation to be followed.
3. Intelligence.
4. Special aptitudes.
5. Deficiencies.

Probable length of time for further schooling. — It is necessary to have some estimate of the probable time a pupil will remain in school before considering the issue of vocational or professional training. If there is every possibility that a pupil will go on to college, the school has as a first duty the planning

of the pupil's program in order to prepare him for college entrance. If the pupil in all probability will only finish high school, it is necessary at once to raise the question of how much vocational training will be provided by his program. However, in most cases it will not involve the immediate entry of the pupil on a distinctly vocational course. If the pupil in all probability will drop out of school in the ninth or tenth grade, the issue of deciding whether or not he should have vocational training affects his immediate program.

The length of time can not be certainly determined. The expectations of the pupils themselves, together with the reasons they give, should be considered. The attitude of parents has a great deal to do with this matter. Many boys and girls drop out of school as soon as the compulsory-education law permits, regardless of their expectations. One of the most brilliant high-school boys with whom the writer ever had to deal discontinued school at the insistence of his parents, and spent on a sight-seeing trip the money he might have put into college training.

There are certain signs that should be considered as predisposing a pupil to drop out of school before he finishes high school. The chief of these are low grades in elementary-school work, particularly in English, overageness,¹ intelligence below 90 I. Q.,² and need of the child's financial assistance at home, coupled with a lack of active interest in education on the part of the home.

On the other hand, good grades in the elementary school, underageness, high intelligence, and a favorable attitude toward education in the home predispose a pupil to school attendance extending at least through high school.

It would be a mistake for a teacher to take one or more of

¹ Ross, C. C., *The Relation between Grade School Record and High School Achievement*, Teachers College Bureau of Publications, 1925.

² Terman, L. M., *The Intelligence of School Children*, Houghton Mifflin Co., 1919.

these indications too seriously. He should raise the question as to what change in the pupil's program would appear desirable. If the need of a marked change is clear, he should at least attempt to work out some middle ground. For example, the dull pupil whose chances for going to college are small, may have the essentials for college entrance put off until the last years in which it is possible to meet them. The pupil whose expectancy from these indications is higher than he himself believes, should be encouraged to consider the opportunities that the longer period would give him.

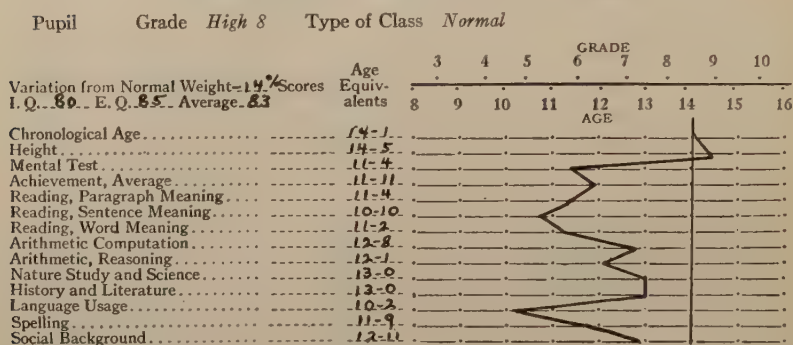
Any group of high-school pupils who have not been carefully guided will provide examples of misfits arising from the neglect of these considerations. When the boys shown in Illustration 8, facing page 89, were asked how long a time they expected to spend in school, 22 out of 26 expressed the expectation of going to college. Of the four who do not expect to go to college, one wishes to be a druggist, one an engineer, one a carpenter, and one a barber. Judging from the intelligence of these pupils and their success in school work up to the present, it is highly probable that of the 22 who express themselves as desirous of going to college, at least 6 will not be able to do ordinary college-preparatory work in high school in a satisfactory manner.

Chart 11 gives the data available on one of these pupils. It will be noted that he is achieving in school subjects slightly above the sixth-grade standard and that in both intelligence quotient and educational quotient he is below 90. He has already attained the age at which he could discontinue school to go to work. The chances are that he will not continue in school more than two or three years at the most. The possibilities of pursuing a curriculum in high school which will use these two or three years to the best advantage should be discussed with this boy and his parents. It is highly probable that the college-preparatory course which he is now beginning is not the best course for him to take. It will lead to failure, unhappiness,

and discouragement rather than to the success and encouragement which should come from school work.

CHART 11

A dull-normal boy who hopes to go to college.



The broken line represents this boy's record.

The vertical line shows the standard for the high-eighth grade.

Note: This pupil's teacher rated him as among the poorest five in his grade in language usage, arithmetic, and spelling.

The pupil who is going to drop out of school in one or two years has little use for subjects such as the greater part of algebra and geometry and the two years' work in a language that have their chief value in the preparation they give for later study. His work should be given a cultural and vocational trend. Subjects should be chosen that will give the most return. Probably to such a student music or art appreciation will be of relatively high value. The social sciences will be preferable to the physical sciences. Expression subjects, such as composition, may well be stressed. Care should be taken to make these years leave the pupil with a desire to continue cultural education in the library, the museum, the art gallery, and in continuation or adult schools.

Should conditions change so that this pupil may continue in school a longer period, the plans should again be changed

ILLUSTRATION 8
A GROUP OF BOYS BEGINNING THE HIGH-EIGHTH GRADE



The boys range in age from 11 years, 6 months, to 17 years, 2 months. Nine of them are more than 14 years of age.

with no loss of time to the student, except where such loss is unavoidable in obtaining the really basic training in the field he later chooses.

It is a sad commentary upon American education that the great majority that finish school at the end of the ninth year carry away from that year so little that is worth the effort. In most of these cases, this last year spent upon Latin and algebra could have been replaced with more suitable studies by attention on the part of the teachers to facts that were staring them in the face. Failure to make these adjustments is one of the reasons why so many people who are becoming the lay controllers of education have little understanding of what the high school tried to do for them in their brief taste of it.

Perhaps the most unfortunate case is the pupil who is exceptional in some respect but who is not recognized as such and who drops out of school without notice. Such pupils should be discovered and provision made ahead of time to meet conditions in such a manner that they will not need to drop out of school. An outstanding case came to the writer's attention through the use of intelligence tests in high-school classes. Upon inquiry made by this pupil's home-room teacher, it was discovered that the boy was the oldest of three children of a widow in poor circumstances. Furthermore, he used such abominable English and wrote so poorly that he was receiving failing marks in English. As the boy was in disrepute because he was a nuisance to his English teachers, he might in the ordinary routine have dropped out of school at the age of fourteen to support his mother. But with special attention to his individual needs, how different was the outcome! He was put in a typewriting class so that he could learn to write legible papers. Through the activities of interested teachers, he was offered a scholarship in a college in the same city. The mother, interested in the fact that the boy, whom she considered bright, was exceptionally so, made every effort to keep him in school. The school itself gave him work

during his freshman year in college as a substitute teacher, although he was but sixteen or seventeen years of age at that time. He received an appointment to Annapolis and graduated with an excellent record. What we may owe to this boy in the future is beyond guessing. Conceivably, it may be many times the cost of the education provided him. Had this pupil's eighth-grade teacher considered all the factors he should have considered in estimating this boy's length of stay in school — including high intelligence and an unfavorable home situation — he would have forestalled the serious difficulties that arose in this boy's high-school experience.

Choice of life work. — Whether or not the occupation a pupil hopes to follow will influence his high-school program depends upon the nature of the occupation. So far as the high-school program of a pupil is concerned, the issue of occupational training does not arise in the case of individuals who expect to go into a profession. In the case of the larger number of pupils who will not go beyond high school, the question is important. If the occupation demands a certain specific training from the beginner, the pupil's program should provide it during his last years in school. For example, a girl who wishes to become a stenographer may well delay the actual training in stenography and typewriting until the last two years. However, if there is a strong possibility that she will drop out of school at the end of the tenth grade, the training in these subjects may be begun in the ninth grade.

In many cases the school does not offer the specific training required for the occupation the pupil desires to follow. In these instances the occupational intention becomes a determining factor in developing the pupil's program only in so far as the course pursued is made to develop qualities, aptitudes, and abilities that promise to prove helpful in the occupation considered. For example, a boy who expects upon completing high school to go into the real-estate business with his father will not

have his occupational expectations enter in any marked degree into determining his high-school course.

The actual occupation that any pupil will probably follow cannot be determined accurately in the eighth grade, or in any later grade for that matter. The best that can be done is to discover what each pupil's occupational hopes are, whether or not they are confirmed by the expectations of parents, whether there are any signs that the interest is an abiding one, and whether the pupil has the mentality and special abilities required in the chosen field. The following questions are useful in obtaining this information; with them are printed the answers given by two tenth-grade boys:

	<i>First Boy</i>	<i>Second Boy</i>
Are you going to college?	Yes	Do not know
If so, where?	Yale	Do not know
What part of your college expenses do you expect to earn?	None	Part
Why do you want to go to college?	To further my education	To learn a life work
What is your favorite hobby?	Golf	Plants
Did your father attend college?	Yes	No
Did your mother attend college?	Yes	No
What occupation are you thinking of taking up?	Banking	Electricity
Where did you get the idea?	From my uncle	From playing with an electric train
How do you think you would succeed in this work?	Very well	All right
Why?		
What is your parents' ambition for you?	Same, or journalist	Electricity

It is not difficult to determine which of these decisions is the more dependable. When a pupil is found with no more basis for deciding upon his work than the second boy, the teacher should go over the problem with the pupil, his parents, and his other teachers.

The writer recalls instances of exceptionally able boys and girls who have been guided into two-year vocational courses in high school without due consideration of the fact that they were potentially able to take up almost any line of work which they might choose. Upon having their abilities pointed out to them, in many instances they changed to college-preparatory or other longer curricula. In nearly every case the choice of the shorter curriculum was due to influence from the home that had not duly considered the exceptional ability of the pupil. It is a notable fact that the range of ability among students in the various curricula in high school is about the same, regardless of the degree of ability required on the average for a particular type of work. While it is probably not desirable to deny a pupil of exceptional ability the right to take up any line of work, whether or not that line of work in itself necessitates the full use of his intelligence, it is certainly undesirable from the pupil's standpoint to fail to lay before him from time to time throughout his course the range of possibilities which are his.

This caution must be followed with particular zeal where the plan of having all types of courses in one school is not followed. When a pupil is enrolled in a specialized school, such as a vocational school, a technical school, or a commercial school, there are three factors that operate unduly to keep a pupil in one field, even though that field should not have been chosen. These are lack of contact with pupils in other fields, the development of school patriotism, and the necessity of changing to an entirely new situation.

It is just as serious for a pupil to harbor the hopes of going into a profession or an occupation that requires exceptional mentality if that pupil does not have the mental ability. The danger that arises from this sort of situation is the danger of discouragement through failure. This sort of problem is one that requires a great deal of tact. The case should be brought to the attention of the pupil's parents for their sympathetic

coöperation. Failing this, the pupil should be permitted to take the preparatory work. However, he should be followed closely and sympathetically by the school so that the adjustment can be made as soon as possible with the least amount of harm.

Cases where pupil and parents disagree as to future occupation frequently arise. An interesting case of this sort was that of a boy whose parents insisted that he follow a college-preparatory course against his will. This pupil was discovered in a special class that was developed to find the cause of failures in algebra. It was found at last that this boy wanted to become a chef. He was at that time serving as a helper to a chef during his free hours. A continuation of attempts to have this pupil take a college-preparatory course would soon have resulted in his leaving school with a minimum of value educationally.

Intelligence. — We have already discussed the influence of intelligence in determining a pupil's length of stay in high school and his vocational choice. There is a very great need of marked variation in programs within the limits set by the length of time spent in high school and the occupational choice. As was indicated in the preceding section, the matter of vocational choice does not enter as a large factor into the high-school programs of many pupils who will not go beyond high school. The type of program that this group will carry with greatest profit is determined largely by their mental capacity. The intelligence of individuals limits their participation in high-school courses. Pupils with an I. Q. much less than 100 should have, as far as possible, programs planned away from the emphasis upon abstract subjects such as Latin and high-school mathematics. In addition to the strictly vocational or commercial curricula, cultural curricula can be followed to advantage by many children who can not make a success of mathematics or Latin. Note, for example, the major and minor courses that were carried by recent graduates of a large city high school, as given in Table 11, on the following page.

TABLE 11
MAJOR AND MINOR COURSES CARRIED BY HIGH-SCHOOL STUDENTS

MAJOR SUBJECTS			MINOR SUBJECTS
	5 years ¹ in these fields	3 or 4 years in these fields	2 years in these fields
Girl A {	English	English Social Science Music	French
Girl B {		Art and Design	Social Science
Girl C {		English Music Home Economics	Spanish Commercial
Boy A {	English	English Social Science Art and Design	Mathematics Science
Boy B {		Mathematics Social Science	Science
Boy C {	Commercial	English Social Science	

¹ During one of the four high-school years, these pupils carried two courses in the same subject.

Perhaps a greater danger arises when pupils follow courses that are not so exacting as they might be. This is likely to arise from an emphasis of vocational or occupational training. While there is no adequate reason why an individual with high intelligence may not be permitted to follow an occupation that does not require him to use all his ability, the pupil should understand his possibilities. If he persists in the line of work that does not make full use of his abilities, consideration should be given to the possibility of enriching the vocational course he is taking. It may be planned to include a greater contact with activities and courses that will fit him to use to best advantage his exceptional abilities both in his leisure activities and as a leader in the field he has chosen.

Special abilities. — In a case where neither probable occupation nor college entrance is the major consideration, any special ability — musical, artistic, or mechanical — may play an important part in determining the pupil's educational plan.

The most available source of information of this sort is the special activity of the pupil. There is no assurance that all or even the most important special abilities will be discovered only by observation on the part of the teacher. Pupils should be questioned regarding their activities and interests. An easy method of collecting such information in a large school is described in Chapter VIII.

The writer recently gave a group of questions bearing upon art, music, literature, and other topics to a group of tenth-grade boys and girls. The group had but a short time to give answers. The answers given to the art questions by one girl are given in Illustration 9. What appears to be a keen interest and ability

ILLUSTRATION 9

ANSWERS TO QUESTIONS ON ART APPRECIATION AND ARTISTIC ABILITY

Name anything you have done outside of school by way of decorating rooms, draperies, fancy borders, etc. *Help to make draperies for my home and my grandparents' also.*

Name three pictures or paintings that you enjoy most. *Blue Boy, Madonna of the Chair, Mona Lisa.*

If you can, quickly sketch one of your schoolmates. Do so in the space below.



in art is indicated by her answers, and particularly by her sketch of a classmate. Yet this pupil was taking no work in art and planned none for the remainder of her high-school work. The possibility of making work in art an important part of this girl's high-school course should be considered.

A few tests of special abilities are now available for supplementing such information. The most important of these are mechanical-ability tests, discussed in Chapter II, and the Seashore musical-ability tests.¹

Deficiencies. — Deficiencies that bear no particular relation to the classroom teachers of a pupil will be lost sight of if the home-room teacher does not give them his particular attention. Among these are deficiencies in appreciation of music and of art, methods of spending leisure time, and participation in extra-curricular activities. The home-room teacher is the one person who has the responsibility for the education of the complete individual.

The importance of music appreciation in this time of increasing prevalence of reproducing instruments and of the radio is such that the pupils who have failed to obtain an appreciation of good music should have something done about it. One writer² has compared the effect of the recent inventions on music with the effect of printing upon literature.

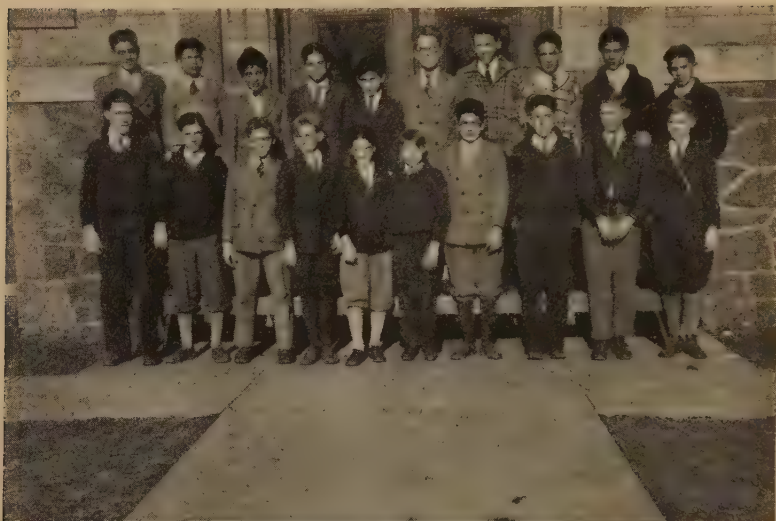
Recently a group of tenth-grade boys and girls gave as their most appreciated selections a series ranging from *Take in the Sun and Hang out the Moon* to *Aida*. When a tenth-grade pupil seriously gives the poorest type of current song as the selection he enjoys most on the phonograph or the radio, it should serve as a challenge to his home-room teacher to provide for further adequate instruction as a part of his program.

Need of periodic studies. — One of the most impressive facts that develop from a consideration of the methods of checking

¹ Seashore, C. E., *The Psychology of Musical Talent*, Silver, Burdett and Company, 1919.

² Fryberger, A. M., *Listening Lessons in Music*, Silver, Burdett and Company, 1925.

ILLUSTRATION 10
THE TENTH-GRADE CLASS IN A SMALL CITY HIGH SCHOOL



For each of the pupils in this group, there were four pupils three years ago. Three out of every four boys and girls in the school system in which these children are enrolled failed to reach the tenth grade.

(Facing 97)

the programs of pupils to discover errors in educational plans, is the uncertainty of the meaning of any set of data we may collect. Faced with this fact and with the undoubted responsibility of the school to guide individual pupils, there can be but one conclusion. The question of each pupil's plans should not be considered as settled once and for all, to be changed only as a result of failure, or choice of the pupil or parents. The most serious case may be that of a pupil who is happy in a course because he is an outstanding success in it. Teachers and pupils alike may be blinded by this success to the real needs of the pupil. Each pupil's educational plans should be reconsidered each term. Any new facts should be brought to bear. Changes in attitude on the part of the pupil or parent, changes in economic status of the family, and the experience of the pupil in the courses he is taking, should all be weighed with the series of considerations that have been presented here. Offering the great variety of educational opportunities that the needs of all types of pupils demand, if it is not accompanied by guidance as intelligent as we are able to give, will, while opening the door to new masses of children, at the same time do harm to others.

The responsibility for guidance is particularly heavy in the case of the eighth-grade teacher, because he has to deal with almost the entire range of mental abilities of the pupils in his class. At the present time a large percentage of boys and girls leave school before they attain the upper high-school grades. For example, the children shown in Illustration 10 — a tenth-grade class — are only a fourth of the number who entered the junior high school as classmates. Three have left school for each one that has survived to the tenth grade. Therefore, many of the most difficult problems of guidance have not survived to reach the home-room teacher in the tenth grade. More and more, however, the whole range of problems are surviving to be met in the upper grades of the high school. This increase is in

response to the demand that the secondary school provide educational opportunities adequate for all children.

The classroom teacher. — In the adjustment to individual differences the classroom teacher has less to do with planning of curricula than with other types of adjustment discussed later. His help is especially important to students that he comes to know well — students who have particular respect for his advice. The classroom teacher in most schools has a group of pupils to whom he is officially responsible as an adviser. But as a classroom teacher he is bound to develop another group of individuals who respect him so much as to consider his suggestions commands. The classroom teacher should make it his business to see that the possibilities of these pupils are not overlooked. He should assume the responsibility for discussing the pupil with the home-room teacher, and together with the home-room teacher reach the conclusion as to what should be done about the pupil's educational plans. Often it will be found desirable for him to discuss any proposed changes with the student and his parents.

One large school has officially attempted to make use of the fact that students often choose their own advisers, by keeping in the office a record of every case that is discovered where the teacher is thus looked upon by the student. This teacher can be called into conference when the pupil's problems are under discussion.

Whether a given teacher has such power over a student or not, he is responsible for discovering special aptitudes in his subject and related subjects, or for discovering a particular lack of aptitude in his subject. Where this has a direct bearing upon the pupil's educational plans, he should make it a point to discuss it with the home-room teacher.

The difficulty in choosing the truly exceptional pupil lies largely in the failure to give work of sufficient difficulty to differentiate the brighter pupils. A striking instance of this is a

boy who proved to be a genius in mathematics. This boy was always prepared in his lessons, but this was not unusual in the class. The teacher gave him little attention in class, but he treated two or three other bright pupils in the class in a similar manner. The following semester this pupil was chosen as one of a group of children to do the work of two semesters in one. Here his superiority showed itself. One of the two or three others that had been considered as able as the boy in question was one of the poorest of this new group. The bright boy was so good that when grouped with the best 7 per cent of the pupils in the subject, he appeared just as good as he had in the ordinary class. Here things moved on a different plane. Issues were raised that had not always been thought out by the teacher, although she was an excellent teacher of mathematics. The teacher often reported instances where this boy had grasped a situation sooner than the teacher herself.

In many instances pupils who are doing but mediocre work are really pupils of high ability. The intelligence test has been useful in discovering such cases. That such pupils should eventually become more or less uninterested loafers is not surprising. If they have found intellectual interests anywhere, it is not in their class work.

The task of discovering special lack of ability also is largely a responsibility of the classroom teacher. The teacher can not, however, with any degree of safety report that certain pupils are unable to do the work because this is the second time they have taken it, or because they have not attained the standards set, or *because they have not done anything all term*. To discover lack of ability has been found to be a most difficult task. The scientific studies that have been made have shown this to be true. The best approach we have to the problem is the intelligence test. We know that a much smaller percentage of people can do the work commonly required in Latin, for instance, than that commonly required in commercial arithmetic.

Presumably this difference is cared for more or less in the choice of program. The pupils who still seem to be incapable should be made the subject of special study.

In the content subjects the difficulty often proves to be a matter of reading ability. In many cases this can be rapidly improved by a teacher who understands the methods of assignments to give in teaching reading. In the case of a subject such as mathematics, it often occurs that there has been some misunderstanding of a simple step somewhere that has caused all the discouragement and difficulty. The writer can suggest no better way to discover these difficulties than that of permitting the pupil to work under observation. Where there are not enough pupils to form such a group, the teacher should assign special hours for such observation.

At one time the writer had charge of such a group in algebra. They were all children who for one reason or another had elected the subject although it was not required for graduation. After two months' work with this group, the difficulty with all but two of them had been discovered and corrected. In every case the difficulty was a simple one.

PROBLEM 5

HIGH SCHOOLS AND THE NEEDS OF INDIVIDUALS

Are high schools fitted to the present-day needs of individuals?

The following instance is reported by a high-school principal:

During the year 1919, it was found that a certain boy who had reached the tenth grade was unable to do successful work in geometry or English, and apparently lacked interest in history, although his work in this subject was much more satisfactory than in the other two subjects named. His teachers all agreed that he had reached the limit in his ability to achieve any success in further high-school work and seriously recommended that he be assisted in finding employment outside of school.

The boy was seventeen years of age. His parents were interested in a desultory sort of way in his education. His father was a bookkeeper working for a large oil company and had never earned more than \$120 per month. He maintained that his interest in his son's education was increased because of his own lack of it. He revealed the fact that he was saving systematically for his son's college education by investing periodically in stock in a building and loan association, but seemed resigned to the fact that his son had reached the point where he was going to retire from school because of his inability to pass the required subjects for graduation.

A conference with the boy revealed the fact that his major interest and apparently the only interest he had, lay in the study of what money would do when placed on interest. It seemed that this problem had been brought up in his own mind by his father's explanation of the building and loan association. He admitted that he did not care for geometry, that he was afraid to recite orally in the English class because of criticisms by his teacher and classmates, and that too much reading was required in history. A later examination showed that astigmatism had caused him a great deal of trouble with his eyes. He seemed willing to do the work required in manual training, asked that he be allowed to enroll in a course in commercial arithmetic, and said that he would like to take public speaking if he could do so without having to speak before his classmates before his speeches were ready for presentation. His records of attendance showed that he had been out of school on an average of about one half day each week for the past year. It was evident that the school was not fitted to meet the needs of this particular boy except by providing him an opportunity to carry on the study of investment opportunities and banking systems in general.

A consultation with his teachers was called, at which time as much as was known about the boy was placed before them and their coöperation was asked in solving the problem connected

with this boy's educational growth. His teachers were requested never to allow situations to arise which would embarrass the boy. They were to provide him with materials for outside work and present any of his work to the class as a piece of work demanding recognition and approval. They were not to call upon him for oral recitations until further notice from the office. He was to be required to read only about one half the amount that had previously been required of him in history. The teacher of commercial arithmetic was to provide him with all available material on banking methods and related subjects. It was suggested that the instructor accompany the boy to the local building and loan association for a study of methods used in its administration.

It so happened that the building and loan association office also had the offices of an insurance underwriters' agency where life, health, and accident insurance was being sold. The boy asked several pertinent questions on the subject of life insurance and his study was directed by the life insurance agent himself to the general field of health and accident policies. Following this method of subject matter presentation, the boy did not improve to any apparent degree in geometry or history, but his work in theme writing in the English courses improved to such an extent that several of his themes were posted on the bulletin board in his classroom as types of excellent work.

Hope was given up of his ever doing the average amount of work required for promotion in mathematics and science. He was allowed to progress with his class, however; credit was allowed for extra work which he did in the commercial department; and as a result, in 1921, he graduated at the age of 19 years. The case was very well known to members of the faculty of the high school, who protested vigorously against the graduation of this boy.

Following his graduation, he accepted a position as clerk in an insurance office of a neighboring city and specialized in the

study of health and accident insurance. He became a full-fledged representative of the company six months later, when he was barely twenty years of age, and eighteen months later was selling a larger volume of health and accident insurance than any other man in his state.

Assignment: 1. Was the variation of this pupil's course justified?

2. Was the variation in requirements for graduation justified?

3. What evil results might come from the above practices? Is there any way in which they can be avoided?

4. Should it be possible for a pupil's adviser to lay out such a course without considering it a special case?

5. If this boy after graduation from high school had gone into work as a day laborer in the oil fields, would any of the answers you have given be different?

PROBLEM 6

EDUCATIONAL OFFERINGS IN THE SECONDARY SCHOOLS

What constitutes adequate educational offerings in the secondary schools?

The following is a statement of courses of study and regulations governing their use in the high school of a community with a population of five thousand:

REQUIREMENTS FOR GRADUATION

In order to qualify for a diploma, a student must have completed work as follows:

1. Studies aggregating at least 78 points.
2. The required subjects of the curriculum chosen.
3. The regular work in physical training.

Elective courses are to be pursued only in the year in which they are offered; that is, for example, no senior may elect for credit a subject offered in the first-year curriculum.

To receive credit toward graduation, a student must pursue one foreign language for at least two years unless, upon recommendations of the teacher and of the head of the department, the principal approves a student's receiving credit for less than two years' work because in his judgment such student will not profit by further study of the language in question.

A student may not begin the study of two languages in the same school year.

If a student elects stenography he must continue its study for two years unless he is permitted by the head of the department to drop it at the end of the first year.

POINTS

Work requiring one recitation per week for one year with preparation outside the classroom allows one diploma point. Five recitations per week on prepared work count five diploma points per year. Work requiring no outside preparation, such as laboratory work, manual training, typewriting, etc., receives one point for two recitation periods per week for one year.

STUDENT LOAD

No student shall carry less than twenty points nor more than twenty-three points without the approval of the curriculum head. Permission to take work in excess of twenty-three points may be granted on the condition that:

1. A standing of at least "C" is maintained in all subjects.
2. Parents assume full responsibility for any physical injuries resulting from too heavy a schedule.

Students will be held responsible for the proper distribution of their points. In no case, however, may a pupil elect subjects outside of his curriculum.

CLASSIFICATION AND PROMOTION

Every student will be classified according to the curriculum he has chosen and the number of points which he has earned. No student may change from one curriculum to another without the approval of the curriculum head, the recommendation of the principal, and the consent of the student's parents.

For promotion to any of the upper three classes, whether in February or in September, a student must have earned points as indicated: Sophomore Class, 15 points (minimum); Junior Class, 35 points (minimum); Senior Class, 55 points (minimum).

CHOOSING A CURRICULUM

Both the pupil and his parents should choose the curriculum deliberately, inasmuch as the strengthening and development of the natural talents a pupil possesses are dependent upon the courses he pursues.

Students expecting to go to college or other higher institutions of learning should acquaint themselves with the entrance requirements of the institution which they expect to enter. This should be done before the end of the first semester of the first year.

Students should consult with their parents and with the principal of the high school before choosing a curriculum. Parents are urged to make an appointment with the principal during the summer months preceding the entrance of their children to the Freshman Class of the high school. As soon as a student is assigned to a curriculum he comes under the supervision of the head of that curriculum.

CERTIFICATION FOR ENTRANCE TO COLLEGE

Usually students who go to college must take the examinations of the College Entrance Examination Board at the end of the third or fourth year of the high-school course. In order for a student to receive permission from the principal to take those examinations he must be doing "A" or "B" work.

Some colleges accept high-school graduates by certificate, without examination. In order for a student to enter such a college, it is necessary for him to have an average of "B" or higher in any subject in which he offers certification.

EXTRA-CURRICULAR ACTIVITIES

School activities outside the regular class work are encouraged and are justified only as they foster greater interest in school work and make for better citizenship. The Student Organization is an organization of the students which has for its purpose the coördination and control of all extra-curricular activities.

The organization works with the faculty through a committee of three faculty members appointed each year by the principal. A point system limits the number of extra-curricular activities in which any one student may engage.

GENERAL CURRICULUM

First Year

<i>Required</i>		<i>Elective</i> (not more than 8 points)	
English I	5	Ancient History	5
Modern Mathematics	5	French I	5
General Science	5	Spanish I	5
Community Civics	2 or 2½	Home Economics (4)	2
		Manual Training	1
		Printing	1
		Mechanical Drawing I	1
		Freehand Drawing I	1
		Music Appreciation	1

Second Year

<i>Required</i>		<i>Elective</i> (not more than 6 points)	
English II	5	French II or I	5
Biology	5	Spanish II or I	5
General Social Science	5	Mechanical Drawing II	1
		Freehand Drawing II	1
		Art Appreciation	1

Third Year

<i>Required</i>		<i>Elective</i> (not more than 12½ points)	
English III	5	French III or II	5
Physics	5	Spanish III or II	5
		Modern History	5
		Typewriting I	2½

Fourth Year

<i>Required</i>		<i>Elective</i> (not more than 7½ points)	
English IV	5	Economics (1st term)	2½
American History and Problems of American Democracy	5	Commercial Law (2nd term)	2½
Chemistry	5	Typewriting II	2½
		Spanish III or French III	5

COMMERCIAL CURRICULUM

First Year

<i>Required</i>		<i>Elective</i> (not more than 3 points)	
English I	5	Printing (4)	2
General Science	5	Manual Training (2)	1
Commercial Arithmetic	5	Home Economics (4)	2
Elementary Business Training and Penmanship	3	Art, or Music Appreciation	1
Community Civics	2 or 2½		

Second Year

<i>Required</i>		<i>Elective</i> (not more than 10 points)	
English II	5	Stenography I	5
Bookkeeping I	5	French I, or Spanish I	5
Typewriting I	2½	Biology	5
History of Civilization	5	Printing II (4)	2

Third Year

<i>Required</i>		<i>Elective</i> (not more than 10 points)	
English III	5	Bookkeeping II	5
Commercial Geography	5	Stenography II	5
Typewriting II	2½	French II or Spanish II	5
		Modern History	5
		Algebra I	5
		Either Bookkeeping II or Stenography II must be taken.	

Fourth Year

<i>Required</i>		<i>Elective</i> (not more than 5 points)	
English IV	5	Office Practice	3
Commercial Law and Economics	5	Bookkeeping III.	5
American History and Problems of Democracy	5	Algebra I, or Plane Geometry	5
Business English and Correspondence (first term only)	2½		

CLASSICAL CURRICULUM

First Year

<i>Required</i>	
English I	5
Latin I	5
Algebra I	5
Ancient History	5
Civics	2 or 2½

Second Year

<i>Required</i>	
English II	5
Latin II	5
Plane Geometry	5
French I, or German I	5

Third Year

<i>Required</i>		<i>Elective</i> (not more than 5 points)	
English III	5	Physics	5
Latin III	5	Modern History	5
Intermediate Algebra	5		
French II or German II	5		

Fourth Year

<i>Required</i>		<i>Elective</i> (not more than $7\frac{1}{2}$ points)	
English IV	5	Chemistry	5
Latin IV	5	Trigonometry (1st term) . . .	$2\frac{1}{2}$
American History and Prob-		Solid Geometry (2nd term) . .	$2\frac{1}{2}$
lems of Democracy	5	Advanced Algebra (2nd term) .	$2\frac{1}{2}$
		French III	5

Chemistry or Physics must be elected in either the junior year or the senior year.

SCIENTIFIC COLLEGE PREPARATORY

For entrance to colleges granting B. S. or Engineering degrees.

First Year

<i>Required</i>		<i>Elective</i>	
English I	5	Mechanical Drawing I (2) . .	1
Algebra I	5		
Community Civics	2 or $2\frac{1}{2}$		
German I, or Latin I.	5		
Ancient History	5		

Second Year

<i>Required</i>		<i>Elective</i>	
English II	5	Biology	5
Plane Geometry	5	Mechanical Drawing II (2) . .	1
French I	5		
German II or Latin II	5		

Third Year

<i>Required</i>		<i>Elective</i>	
English III	5	Home Economics (4)	2
Intermediate Algebra	5		
French II.	5		
Physics.	5		

Fourth Year

<i>Required</i>		<i>Elective</i>	
English IV	5	Chemistry	5
American History and Prob-		French III	5
lems of Democracy	5		
Trigonometry (1st term) . . .	$2\frac{1}{2}$		
Solid Geometry (2nd term) . .	$2\frac{1}{2}$		

NORMAL CURRICULUM

For preparation for entrance into the State Normal Schools.

First Year

<i>Required</i>		<i>Elective</i> (not more than 5 points)	
English I	5	Ancient History	5
Algebra I	5	French I	5
Freehand Drawing (2)	1		
Community Civics	2 or 2½		

Second Year

<i>Required</i>	
English II	5
Plane Geometry	5
Biology	5
French I or II	5
Freehand Drawing (2)	1

Third Year

<i>Required</i>		<i>Elective</i> (not more than 7 points)	
English III	5	Home Economics (4)	2
Modern History	5	Art Appreciation	1
Physics	5	French II or III	5

Fourth Year

<i>Required</i>		<i>Elective</i>	
English IV	5	Chemistry	5
American History and Problems of Democracy	5	French III	5
Economics (1st term)	2½		
Review of Grammar, Arithmetic, and Spelling (2nd term)	0		
Music Appreciation	1		

The number of pupils enrolled in each grade above the sixth in the schools of this community and the distribution of the enrollment among the six courses of study are given in the following table.

DISTRIBUTION OF PUPILS BY GRADES AND COURSES OF STUDY, IN THE
COMMUNITY REFERRED TO ON PAGES 103-111

GRADE	NUMBER OF PUPILS	NUMBER OF PUPILS IN EACH HIGH SCHOOL COURSE				
		General	Commer- cial	Classical	Scientific College Prepara- tory	Normal
VII	130					
VIII	135					
IX	105	16	30	35	14	10
X	80	10	25	30	10	5
XI	60	10	30	15	3	2
XII	45	2	15	15	10	3

The following table gives the time allotment of subjects in the seventh and eighth grades in the schools of this community:

SUBJECT	NUMBER OF MINUTES PER WEEK	
	Grade VII	Grade VIII
Opening Exercises	45	45
Reading	135	135
Language	170	180
Arithmetic	200	200
Geography	150	180
History and Civics	165	190
Spelling	150	150
Penmanship	85	80
Drawing	60	60
Music	70	70
Manual Training	180	180
Domestic Science	180	180
Recess	60	60

Assignment: 1. List the distinct types of educational programs that would probably be demanded if all the pupils of secondary-school age, in the community referred to on pages 103-110, were to spend this period in the junior and senior high schools in courses adapted to their needs.

2. Which of the types of programs in your list prepared in answer to the above are not required by the pupils who are now in high school?

3. What changes in the curricula now offered are demanded by the above considerations?

4. What additional courses are necessary?

5. What changes in the required and elective regulations would improve the situation?

6. What subjects should the courses of all pupils have in common?

7. Do any of your answers conflict with the requirements set up by your state department of education?

8. Do any of your answers conflict with the requirements of your association of colleges and secondary schools?

9. What changes in regulations would improve the home-room teacher's opportunities for caring for the needs of the pupils for whose guidance he is responsible?

PROBLEM 7

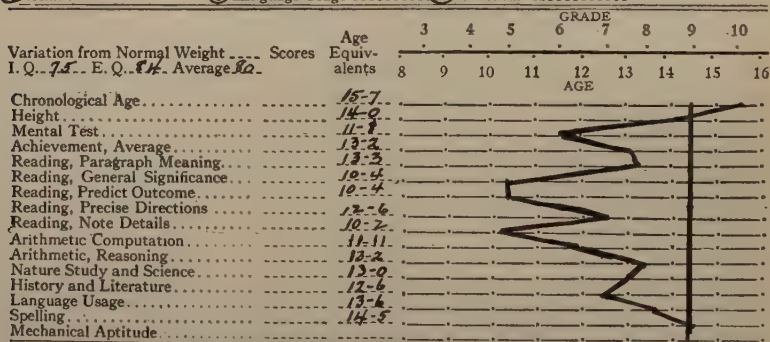
THE DULL PUPIL IN THE JUNIOR-HIGH-SCHOOL GRADES

If the junior high school is to serve all pupils who are of junior-high-school age, it will be found necessary to provide for some pupils programs markedly different from those of the mass of pupils. Unusually dull pupils present a particularly difficult problem.

The educational status of a pupil enrolled in the eighth grade of a traditional school is given in the chart reproduced on the next page. The entries in the chart show the attitude of the school. The pupil himself expressed a desire to go to a trade school. He has found but little in the traditional school to repay him for time spent.

112 INDIVIDUAL NEEDS UNDER TRADITIONAL CONDITIONS

Entrance grade in this school system..... Entrance grade in this school.....
 Grades skipped..... *None*..... Grades repeated..... *2*..... Half years spent in kindergarten..... *None*..... Does pupil expect to go to high school?..... *No*..... College?..... *No*.....
 What does he want to do when he finishes school?..... *To go to a trade school*.....
 Does he take music lessons outside of school?..... *No*..... Other lessons, if any, outside of school?..... *No*.....
 Member of the following school teams or other organizations:.....
 Outside organizations:.....
 What musical instruments?.....
 What magazine does he read most?..... How is out-of-school time spent?.....
Work, play and study..... Is there a room in the home where he can study by himself?..... *No*..... What kind of music does he like best?..... Has he a card for the public library?..... *Yes*..... Times each week spent at the movies?..... *1 or 2*..... What language is spoken in the home?..... *Spanish American*..... How many books in the home?.....
 Specific Weaknesses..... *Bad temper, low mental ability, not normal*.....
 Physical Defects..... *Nervous, Hunching back, Cleaving throat*.....
 Too mature socially for this group?..... Too immature?..... Does the program of this pupil vary from that of the class as a whole in any manner?..... *Decidedly*.....
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success)..... *He does not attain average ability*.....
 Variations from section program at any time in past (give grade, type of section, and nature of variation)..... *He has passed from grade to grade because of age*.....
 Any other irregular features in this pupil's school history..... *Not a member of grade 8*.....
 Enrollment in this class..... *11*..... Type of class..... *Below average in intelligence*.....
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks: *No marks formal*
 ① General Ability..... ⑤ Leadership..... 9. Freehand Drawing..... ⑬ Spelling.....
 ② Mechanical Ability..... 6. Reading..... ⑩ Arithmetic..... ⑭ Music.....
 ③ Attitude toward Work..... 7. Nature Study & Science..... ⑪ History..... ⑮ Shop Work.....
 ④ Health..... ⑧ Language Usage..... ⑫ Literature..... ⑯



Pupil's Record..... Record of Section to which assigned.
 Use vertical line to represent grade standard.

This pupil sits in the back of the room doing busy work while the rest of the class goes ahead with eighth-grade work. Whenever he is asked to contribute, his classmates are bored. What would a modern junior high school offer him? The offerings that have been recently proposed for the junior high schools in a southern city¹ are shown on pages 113-115.

¹ Report of the survey of Duval County, Florida, Bureau of Publications, Teachers College, Columbia University, 1927. (Developed by Dr. Herbert B. Bruner.)

JUNIOR-HIGH-SCHOOL PROGRAM — THE CONSTANTS¹

SUBJECT	GRADES			
	7L	7H	8L	8H
English	English I Literature Reading Composition (250)	English II Literature Reading Composition (250)	English III Literature Reading Composition (250)	English IV Literature Reading Composition (250)
	Social Studies I (250)	Social Studies II (250)	Social Studies III American History European Back- ground (250)	Social Studies IV American History (250)
Home Econ- ics, Science, and Apprecia- tion Courses	Home Economics or Elementary Sci- ence (100) Music Appreciation (100) Art Appreciation (50)	Home Economics or Elementary Sci- ence (100) Music Appreciation (100) Art Appreciation (50)	Home Economics or General Science (100) Music Appreciation (100) Art Appreciation (50)	Home Economics or General Science (100) Music Appreciation (100) Art Appreciation (50)
Mathematics	Mathematics I Arithmetic and Gen- eral Mathematics (250)	Mathematics II Arithmetic and Gen- eral Mathematics (250)	Mathematics III General Mathe- matics and Busi- ness Arithmetic (250)	Mathematics IV General Mathe- matics and Busi- ness Arithmetic (250)
	Health and Physi- cal Education I (250)	Health and Physi- cal Education I (250)	Health and Physi- cal Education II (250)	Health and Physi- cal Education II (250)
Health and Physical Edu- cation				Health and Physical Edu- cation III (250)

¹ These courses are called "constants" because they are the same for all pupils, although provisions should be made within them for individual differences. Each course of the constants with the exception of science, art, and music should be offered five times a week, forty-five or fifty minutes each day. These courses represent the foundation of the work in the junior schools and are designed to carry on the work of the elementary school in teaching the pupils the skills, habits, attitudes, and appreciations necessary for good citizenship.

DRILL COURSES ¹

SUBJECTS FOR GRADE 7	SUBJECTS FOR GRADE 8
Arithmetic Composition Geography Grammar Penmanship Remedial Reading Spelling	Arithmetic Composition Geography Grammar Penmanship Remedial Reading Spelling

BROADENING AND FINDING COURSES ²

FIELDS	COURSES OFFERED IN GRADE 7	COURSES OFFERED IN GRADE 8 ³	SEMESTER OR FULL YEAR COURSES OFFERED IN GRADE 9
Commercial	Business Journalism Typewriting	Banking Bookkeeping Office Practice	Typewriting (36) ⁴ Bookkeeping (36) Stenography (36) Office Practice (18)
Fine Arts	Art Arts and Crafts Music Orchestra Public Speaking Vocal Music	Design Interior Decorating	Orchestra (36) Music (36) Art (36)
Home Economics	Clothing Cooking House Furnishing Meal Planning and Food Preparation Millinery Sewing Vocational Information for Girls	Home Nursing	Home Making (36) Domestic Arts (36) Domestic Science (36)
Industrial Arts	Auto Mechanics Electricity General Shop Work Mechanical Drawing Printing Vocational Information for Boys Woodworking	Bricklaying and Cement Carpentry Forge and Sheet Metal General Repairs Painting and Wood Finishing Plumbing and Heating	Electricity (18 or 36) Auto Mechanics (18 or 36) Mechanical Drafting (18 or 36) Printing (18 or 36) Woodworking (18 or 36)

BROADENING AND FINDING COURSES²— *Continued*

FIELDS	COURSES OFFERED IN GRADE 7	COURSES OFFERED IN GRADE 8 ³	SEMESTER OR FULL YEAR COURSES OFFERED IN GRADE 9
Languages	Pre-French Pre-Spanish Pre-German	Pre-Latin	German (36) Latin (36) French (36) Spanish (36)
Mathe- matics			Algebra (36) General Math- ematics (36)
Science		Pre-Biological Science Pre-Physical Science	Biology (18) General Science (36) Physiology (18)
Social Studies			General or World History (36)

¹ Drill courses are 20 to 25 minutes in length.

All electives in the seventh and eighth grades, with the exception of the drill courses, are broadening and finding courses of six weeks each. A pupil in the seventh grade should be required to take four broadening and finding courses, one each from the following fields: commercial, fine arts, home economics or industrial arts, and languages (Pre-Spanish or Pre-French only), and four drill courses. Pupils may elect the four broadening and finding courses within the fields, but teachers should select the drill courses on the basis of tests. For pupils who may leave school at an early date, it is recommended that half-year units in subjects which will best fit them for the work they are going to do be offered after the first semester of the seventh grade in lieu of the broadening and finding courses.

² All broadening and finding courses should be five periods per week, of forty-five or fifty minutes each.

³ Pupils in Grade 8 have access not only to the broadening and finding courses listed in this column but also to all those offered in Grade 7.

⁴ The figures in parentheses indicate the length of courses in weeks.

Assignment: 1. Lay out a program for this pupil (whose chart is on page 112). Do not limit yourself to eighth-grade offerings in making your choice.

2. Develop for this pupil the best program that should be offered for him in a traditional school with which you are familiar.

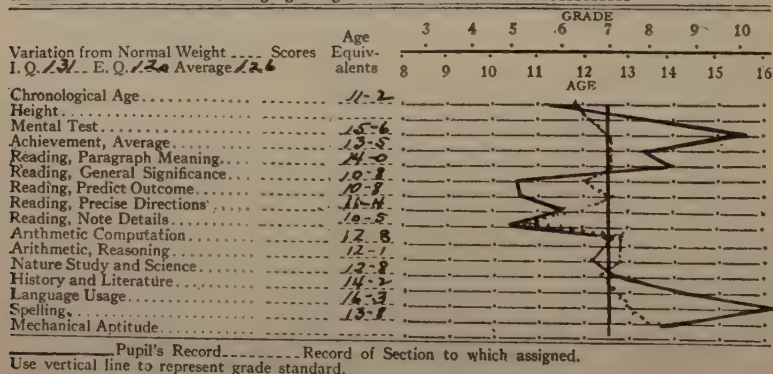
PROBLEM 8

FITTING A PUPIL'S PROGRAM TO HIS INDIVIDUAL NEEDS

As a rule, children are not uniformly poor or uniformly good in school work. This frequently raises the problem of providing extra work in some subjects at the same time that a pupil's course is actually being broadened.

The following is the record of a girl about to enter the seventh grade. She is a year ahead of standard for her grade and of the average of her class in average achievement. She is low in reading, average in arithmetic, and high in certain other subjects.

Entrance grade in this school system..... 6..... Entrance grade in this school..... 6.....
 Grades skipped..... none..... Grades repeated..... none..... Half years spent in kindergarten.....
 Does pupil expect to go to high school?..... yes..... College?..... yes.....
 What does he want to do when he finishes school?..... teacher.....
 Does he take music lessons outside of school?..... Other lessons, if any, outside of school?.....
 Member of the following school teams or other organizations:.....
 Outside organizations:..... Girl Scouts.....
 What musical instruments?.....
 What magazine does he read most?..... John Martin..... How is out-of-school time spent?.....
Playing, helping mother..... Is there a room in the home where he can study by himself?..... yes.....
 What kind of music does he like best?..... Has he a card for the public library?..... yes..... Times each week spent at the movies?..... 2-3 per week..... What language is spoken in the home?..... English..... How many books in the home?..... many.....
 Specific Weaknesses.....
 Physical Defects.....
 Too mature socially for this group?..... Too immature?..... Does the program of this pupil vary from that of the class as a whole in any manner?.....
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success).....
 Variations from section program at any time in past (give grade, type of section, and nature of variation).....
 Any other irregular features in this pupil's school history.....
 Enrollment in this class..... 25..... Type of class.....
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability..... 5. Leadership..... 9. Freehand Drawing..... B..... 13. Spelling..... B.....
 2. Mechanical Ability..... 6. Reading..... B..... 10. Arithmetic..... B..... 14. Music..... D.....
 3. Attitude toward Work..... 7. Nature Study & Science..... B..... 11. History..... D..... 15. Shop Work.....
 4. Health..... 8. Language Usage..... B..... 12. Literature.....



The following is a typical program of normal pupils built up from the junior-high-school curriculum in Problem 7, pages 113-115.

TYPICAL PROGRAM CARD FOR THE FIRST SIX WEEKS OF THE SEVENTH GRADE

PERIODS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:30-8:40 . . .	Advisory	Advisory	Advisory	Advisory	Advisory
8:45-9:30 . . .	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics
9:35-10:20 . . .	Study or Adjustment	Study or Adjustment	Study or Adjustment	Study or Adjustment	Study or Adjustment
10:25-11:10 . .	Auto Mechanics (B & F) ¹	Auto Mechanics (B & F)	Auto Mechanics (B & F)	Auto Mechanics (B & F)	Auto Mechanics (B & F)
11:15-12:00 . .	Home Economics or Science (Combination)	Music Appreciation (Combination)	Home Economics or Science (Combination)	Art Appreciation (Combination)	Music Appreciation (Combination)
12:05-1:20 . . .	English and Lunch or Lunch and English				
1:25-1:55 . . .	Assembly (Activity)	Travel Club (Activity)	Boy Scouts (Activity)	Glee Club (Activity)	Efficiency (Activity)
2:00-2:45 . . .	Health and Physical Education	Health and Physical Education	Health and Physical Education	Health and Physical Education	Health and Physical Education
2:50-3:35 . . .	Social Studies	Social Studies	Social Studies	Social Studies	Social Studies

¹ Broadening and finding course.

TYPICAL PROGRAM CARD FOR THE SECOND SIX WEEKS OF THE SEVENTH GRADE

PERIODS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:30-8:40....	Advisory	Advisory	Advisory	Advisory	Advisory
8:45-9:30....	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics
9:30-10:20....	Study or Adjustment	Study or Adjustment	Study or Adjustment	Study or Adjustment	Study or Adjustment
10:25-10:45..	Arithmetic (Drill)	Arithmetic (Drill)	Arithmetic (Drill)	Arithmetic (Drill)	Arithmetic (Drill)
10:50-11:10..	Grammar (Drill)	Grammar (Drill)	Grammar (Drill)	Grammar (Drill)	Grammar (Drill)
11:15-12:00..	Home Economics or Science (Combination)	Music Appreciation (Combination)	Home Economics or Science (Combination)	Art Appreciation (Combination)	Music Appreciation (Combination)
12:05-1:20...	English and Lunch or Lunch and English				
1:25-1:55....	Assembly (Activity)	Courtesy Club (Activity)	Archery Club (Activity)	Going-to-College (Activity)	Efficiency (Activity)
2:00-2:45....	Health and Physical Education	Health and Physical Education	Health and Physical Education	Health and Physical Education	Health and Physical Education
2:50-3:35....	Social Studies	Social Studies	Social Studies	Social Studies	Social Studies

Assignment: 1. Change the typical program to conform to this pupil's needs.

2. How could you meet the needs of this pupil in a traditional school?

PROBLEM 9

THE WORK OF THE HOME-ROOM TEACHER

In the junior and senior high school the home-room teacher performs the important guidance duties of the elementary-classroom teacher or of the principal in the small high school. What is the scope of the work of the home-room teacher?

The following list of suggestions was prepared by a superintendent of schools in a small western city:

The following items are suggestive as to what the home-room teacher's responsibilities are. The details relative to any item are to be worked out with the principal. The items here listed will be of particular value to teachers in the seventh and eighth grades and high school, but should also be read by all teachers. This will help all teachers to get the proper administration viewpoint.

1. The teacher as a home-room director should be responsible for record-keeping with regard to attendance and punctuality and for filling out and keeping up to date any forms which make the effective running of the school possible. While this is necessary, it is of least importance in the home-room teacher's work.

2. The sessions 8:30 to 9:00 and 1 to 1:15 should be free, social developing periods. Home-room membership should decide what activities are proper and the membership should aim to carry out those items upon which they decided.

3. Pupils will not be allowed to go, without permission, to any room except their own home-room at 8:30 and 1 p.m.

4. Those who want to study, if they are bothered in the home room, may go to the Auditorium Library room. This will be strictly a study room.

5. The twenty-minute conferences that home-room teachers

will have twice a week with their membership, offer splendid opportunity for character and moral development. This period in the hands of a skillful teacher will tend to establish class spirit and a collective right-mindedness that will permeate the activities of the school.

6. The home-room section thus becomes the unit through which are carried out all the major projects of the school and around which center all the activities of student government.

7. The responsibility of the home-room teacher is to guide and counsel so as to bring his group into living contact with all the ideals of the school.

8. He must establish the idea of cleanliness in body and in speech, and of respect for property and surroundings.

9. He must develop courtesy and high standards of scholarship. He must develop group spirit for approval of righteousness and disapproval for everything unrighteous.

10. Just as every family is a part of a larger group, the community, or as a state is an integral part of our nation, so the home-room section is one division of the larger social whole, the school community. The school community is the federation of the home-room sections, and the spirit of the school community is not any stronger than the weakest spirit of the home-room section.

11. An individual is at one time a citizen of his state and nation. In the same manner the child is at one time a citizen of the small unit and the larger school community.

12. The school community comprises all those individuals whose lives are bound up with, and who contribute toward the life of the school: students, faculty, and janitorial staff.

13. Just to the extent that these three groups of workers are exerting themselves unitedly and harmoniously for the good of the whole, does the school community become a forward-moving, progressive body whose members are mutually helpful in their desire to serve the great objectives for which the school stands.

14. The school community is made up of men, women, boys, and girls. It includes hand workers, brain workers, leaders, and followers.

15. The home-room unit and the school community are typical organizations through which the socialized activities of the school find outlet and expression in desirable training experiences and in high-minded citizenship.

16. It might be interesting and stimulating for students to get names for their home rooms such as "Webster House," "Roosevelt House," "Frances E. Willard House," etc. The name used could be neatly printed and displayed on the outside of the door of the room. It should be suggestive of the ideals of the members of the room.

17. The main duty of the home-room teacher is to help the pupils adjust themselves to the new environment, making them feel that they are distinct social entities in whose happiness and progress he is sympathetically interested and to whose needs and aspirations he is glad to minister.

18. The teacher should so imbue the individual members of his group with the spirit of the school, that each will endeavor to measure up to its high standards of attainment and its ideals of coöperative service.

19. In trying to do as suggested in No. 18, the teacher should keep in mind that probably the best way to do this is through his own courteous attitude, refined manner, and gentle speech.

20. If the working of the home-room idea is to be successful, it is absolutely necessary that helpful personal relations exist between the entire faculty and the individual pupils.

21. The aim of each teacher should be to influence the individual toward cheerful assumption of his responsibility as an active, intelligent member of the student body.

22. The twenty-minute discussions should be first for the purpose of discussing the types of activities that might be undertaken. Then decide upon one, organize, and work it out.

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Everybody in the group should take part in some way. Each twenty-minute period should be organized on the basis of parliamentary procedure. Change officers every month at least.

23. All extra-classroom activities should be organized as a club, with a president, secretary-treasurer, and vice president as officers. These too might be changed every month.

24. Some activities that might be taken up by the home room are as follows: checking attendance; committee on "Why members are absent," following that with frequent calls if members are sick; sending letters of regret to those who are sick; sending assignments to those who are sick, supplying books and magazines, etc.; presiding at patriotic civic community meetings and at assemblies; programs for assembly; working on student committees; conducting socialized recitations and debates; introducing speakers; giving addresses of welcome; dramatizing business men discussing a community social project; a mock banquet with speeches; and an imaginary reception with a host and hostess.

25. Teachers should not impose ideas and procedure upon pupils but should lead them to do their own thinking and acting.

26. Various problems in the school room, corridors, etc., should be taken up. Pupils might work up a behavior calendar and check their own conduct against it from week to week and watch for improvement. Improve failures. The teacher should use his imagination freely in leading pupils in these free activities. Pupils need to use their imaginations also. Teachers should not talk too much. The twenty-minute periods are not lecture periods. Direct the discussion of the pupils.

27. Use your room bulletin freely and display freely upon it various work which shows progress and success. Use both student papers and city papers in telling about the interesting things that you are doing. (Give credit by naming pupils who are aggressive and who are doing things.)

Assignment: Check the items that bear on this problem — the scope of the work of the home-room teacher. Make any modifications in this list of items that you believe are demanded by a proper consideration of the place of the home-room teacher in guidance.

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CHAPTER IV

THE PLACE OF ACCELERATION IN THE PROGRAMS OF UNUSUALLY BRIGHT PUPILS

EXCEPTIONALLY able boys and girls are frequently discovered whose unusual abilities have not been challenged by school work. They have walked along the school's highway at an ordinary pace, although nature has endowed them with seven-league boots. They have had their attention insistently called to the surface of things, although they have eyesight that can penetrate into the depths. They have brought twelve, fifteen, or twenty talents, but they have been taught the stewardship of only ten.

The function of acceleration. — The consensus of opinion to-day seems to be that part of the adjustment to bright pupils may be made by permitting such pupils to finish high school as early as at fifteen years of age. This is three years of acceleration in all.

Should there be any acceleration? Why should not each boy and girl have the advantage of the twelve years in the twelve grades, with work cut out to his or her measure? Part of the answer is that schools are not, as yet, very adept at cutting the work of each pupil to his individual measure. We are not at all sure, for instance, that an enriched fifth grade covering a year's time is as good as a half year of the ordinary fifth-grade curriculum with the saved half year available later for added subjects in the junior high school, senior high school, college, or university. We do know that the larger junior and senior high schools, and certainly the colleges and universities, can make broad opportunities available to the individual without any particular additional effort.

Who should be accelerated? — In many instances there are other reasons, entirely apart from those just presented, for accelerating pupils. There are unusual boys and girls who will drop out of school as soon as the law permits. There are others who may stay on longer, but will eventually be forced out of school by economic pressure. There are some who will be able to finish training in a learned profession, provided the total training period may be finished while they are reasonably young. The problem of economic pressure, though not a pressing one in the lower grades, becomes stronger and stronger after the boys and girls have reached the age of fourteen. For such pupils who are capable, the school would seem to have no choice but acceleration.

If we skip such a pupil over an elementary grade with provisions for his mastering the essentials, he can have the advantage of an added year in junior or senior high school. If he is achieving on a level that indicates partial mastery of the grade ahead, certainly there can be no choice. Unless care is taken to enrich this term's work, it will be a choice between acceleration and a year of dawdling. .

There is to be considered the further problem of the very young pupil who has already mastered the greater part of the work of the present grade. It may prove necessary to put an occasional pupil of this sort ahead, in order to put him in a position that will challenge his abilities. This would occur only when the task of providing challenging work in the present grade is too great.

When a real choice can be offered between an enriched program and acceleration, not all bright pupils should be accelerated and not all bright pupils should be denied the opportunity of acceleration. It is an individual matter. The decision in any instance must be made in terms of the pupil's abilities, achievement in school, interests, outside activities, such as music lessons, provided by the home, financial conditions in the family that bear

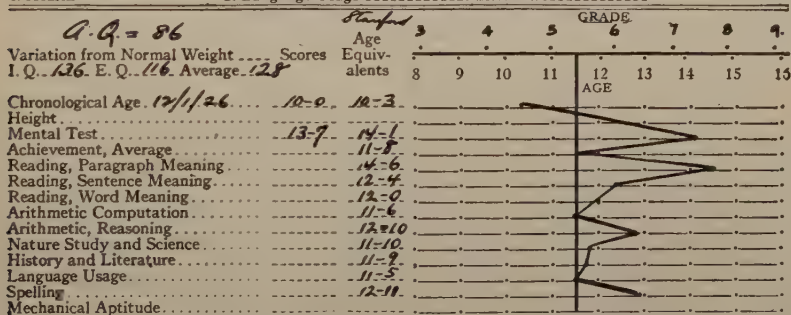
upon a pupil's possible length of stay in school, and desires of the parents.

CHART 12

A pupil of exceptional ability who should have an enriched program rather than advancement to a higher grade

Entrance grade in this school system... 7 Entrance grade in this school... 1
 Grades skipped... 1-2 Grades repeated... 0 Half years spent in kindergarten... 0 Does pupil expect to go to high school? Yes College? Yes
 What does he want to do when he finishes school? Teacher
 Does he take music lessons outside of school? Yes Other lessons, if any, outside of school? None
 Member of the following school teams or other organizations: Swimming, Health Club
 Outside organizations: None
 What musical instruments? Piano
 What magazine does he read most? Child Life How is out-of-school time spent? Reading
 Is there a room in the home where he can study by himself? Yes What kind of music does he like best? Classical Has he a card for the public library? Yes Times each week spent at the movies? 3 What language is spoken in the home? English How many books in the home? 200
 Specific Weaknesses: None
 Physical Defects: None
 Too mature socially for this group? Yes Too immature? No Does the program of this pupil vary from that of the class as a whole in any manner? No
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) None
 Variations from section program at any time in past (give grade, type of section, and nature of variation) None
 Any other irregular features in this pupil's school history: None
 Enrollment in this class... 40 Type of class... Normal
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

1. General Ability	5. Leadership	9. Freehand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	



When shall acceleration take place? — Since any of these conditions, including our estimate of ability, are subject to change, we are unable to decide finally, at any given time, just what

relationship acceleration should bear to the total school life of a given pupil. A pupil's ability to accelerate may be determined in the kindergarten, but the conditions that make acceleration desirable or undesirable may change from year to year. It is, therefore, a question that must be raised throughout each pupil's school career. The planning for the immediate future must be done in the light of all the conditions available at the given time.

Keeping a child in his social group would require that the acceleration be distributed well through his school life. The greater ease of broadening the individual pupil's curriculum in the junior and senior high school is an argument given for acceleration in the grades. On the other hand, it is easier to accelerate in junior and senior high school, because it requires only the addition of subjects to the normal program. The better practice would seem to be to begin acceleration whenever it appears that a pupil is a proper subject for this adjustment. It would not seem desirable to have a pupil complete the third grade more than a year underage for his grade, nor the sixth grade more than two years underage. As a general rule, if a pupil in grades one to four will not be made more than a year underage, or a pupil in the fifth or sixth grades will not be made more than two years underage, special promotion is permissible. Exceptions to this would result from variation in social maturity of pupils.

Methods of accelerating pupils. — In Chapter II the discussion on kindergarten points out the type of boys and girls who may well omit kindergarten and go on into the first grade. This is acceleration of a sort, for it is giving this pupil the start of a year over the other children. He will be a year farther on in school than he otherwise would be. In some school systems the work is so organized that from the beginning the children who are able are expected to go through the grades more rapidly than one grade a year. The method followed in most schools in the elementary grades is that of special or double promotion. By this

method, a pupil who has shown marked ability is occasionally allowed to skip a grade. The work omitted may or may not be made up by special assignment given by a coaching teacher or by the regular classroom teacher. This process is particularly easy in the lower elementary grades, where skills are emphasized more than knowledge. It is becoming increasingly easier in the upper elementary grades through use of materials developed in individual-method schools. The use of such materials is discussed in Chapter VI.

In the junior and senior high schools acceleration is brought about by assigning a larger number of subjects than the number required or by giving extra credit for exceptional work. To make early graduation possible as a result of extra work taken in the junior high school, provision must be made for counting additional credit made in the junior high school toward graduation from senior high school.

Analysis of the Records of a Fifth-Grade Class

We shall now examine the records of the pupils in Illustration 3, facing page 33, to discover the pupils who are exceptionally bright and at the same time are doing sufficiently well in their school work to merit acceleration, and those who are doing so well in their school work as to merit acceleration regardless of brightness. As in our earlier analysis, we shall find it instructive to deal with the problem first on the basis of teacher judgment and then on the basis of the standard tests.

The pupils who were rated the best of the class by the teacher in the previous semester, are reported in Table 12, page 130.

Whether or not a pupil is underage can be discovered by comparing the pupil's age on the profile chart with the vertical, or grade-standard, line. A pupil whose graph falls to the left of the vertical line by more than 10 months is considered underage. A pupil whose age falls a year to the left is 2 months underage. For example, in Chart 13, the pupil's age falls a year

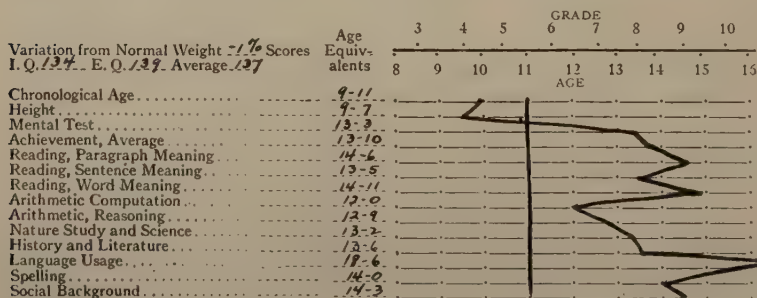
TABLE 12
PUPILS RATED HIGHEST BY THEIR LAST-SEMESTER TEACHER

	AMOUNT UNDERAGE IN MONTHS	ITEMS IN WHICH HIGH RATINGS WERE GIVEN
Rose	0	Attitude toward work Leadership Language usage Arithmetic Spelling
Madge	0	Attitude toward work Leadership Language usage Arithmetic Spelling
Susan	3	Freehand drawing Attitude toward work Leadership Language usage Arithmetic Freehand drawing Spelling Music

CHART 13

A ten-year-old girl who should be given a special promotion

Pupil *Susan* Grade *High 5* Type of Section *Fast*



Note: Susan's teacher rated her as among the best five in her class in attitude toward work, leadership, language usage, freehand drawing, arithmetic, spelling, and music. The school has no record of any special adjustment that has ever been provided Susan. At present the special teacher of arts and crafts gives her advanced work occasionally.

and a month, or 13 months, to the left of the vertical or grade-standard line. This pupil is accordingly 3 months under normal age, or 13 months less 10 months.

In case the information is not recorded on a card similar to Chart 13, Table 13 may be used. To find the amount a pupil is underage, subtract his age from the number of years and months

TABLE 13

A METHOD OF SELECTING THOSE MEMBERS OF A CLASS WHO
ARE UNDERAGE FOR THE GRADE

Any Pupil Who at the Beginning of the Term (September 1 or March 1)
Was of Less Age than That Indicated Opposite his Grade,
is Underage for his Grade

A SCHOOLS HAVING MIDYEAR-ENTRANCE CLASSES (SEMIANNUAL-PROMOTION SCHOOLS)		B SCHOOLS HAVING NO MIDYEAR-ENTRANCE CLASSES (ANNUAL-PROMOTION SCHOOLS)	
Grade	Years — Months	Grade	Years — Months
Kindergarten Low	4 — 9		
Kindergarten High	5 — 3		
1 Low	5 — 9	1	5 — 9
1 High	6 — 3		
2 Low	6 — 9	2	6 — 9
2 High	7 — 3		
3 Low	7 — 9	3	7 — 9
3 High	8 — 3		
4 Low	8 — 9	4	8 — 9
4 High	9 — 3		
5 Low	9 — 9	5	9 — 9
5 High	10 — 3		
6 Low	10 — 9	6	10 — 9
6 High	11 — 3		
7 Low	11 — 9	7	11 — 9
7 High	12 — 3		
8 Low	12 — 9	8	12 — 9
8 High	13 — 3		
9 Low	13 — 9	9	13 — 9
9 High	14 — 3		
10 Low	14 — 9	10	14 — 9
10 High	15 — 3		
11 Low	15 — 9	11	15 — 9
11 High	16 — 3		
12 Low	16 — 9	12	16 — 9
12 High	17 — 3		

given opposite his grade in this table. For example, a pupil who is 10 years old and in the high-fifth grade is 3 months underage. This was obtained by subtracting the pupil's age, 10 years and 0 months, from 10 years and 3 months given opposite 5 High in the table. The age of the pupil must be computed as of September 1 if the school is an annual-promotion school. If promotions are made semiannually, the pupil's age must be computed as of September 1 or March 1, according to the time of the year. During the fall semester September 1 is used, and during the spring semester March 1 is used.

Since none of the children shown in Table 12 are markedly underage, if conditions were favorable we should be justified in accelerating all three.

Let us see what results are obtained when we attack the problem in the light of data obtained from the standard tests. We shall be interested in the native ability as indicated by the I. Q. and E. Q., by the educational age or average achievement, and by the age of the children under consideration. Table 14 gives such information upon all pupils who are above 110 in I. Q. or E. Q., or are a year above standard in average achievement. The facts regarding each pupil's I. Q. and E. Q. were obtained directly from the profile card. The relative achievement of a pupil was obtained by comparing a pupil's achievement average with the vertical or grade-standard line. For example, the pupil whose record is given in Chart 13, page 130, exceeds 110 in both I. Q. and E. Q., inasmuch as her I. Q. is 134 and her E. Q. is 139. Her achievement average, or educational age, is 2 years and 10 months above grade standard.

Of the four ablest children as determined by the intelligence test, the teacher chose only one as exceptional. This pupil, Susan, is the outstanding one so far as achievement is concerned. One of the three chosen by the teacher — Rose — is one of the least promising candidates as determined both by ability and achievement. The others who are not promising are Forrest,

Evelyn, and Minnie. Minnie should be kept in mind as a case for future acceleration. She is one of the ablest children in the entire group, but has failed to achieve up to her possibilities. She is scarcely up to standard in achievement for the present grade. Her case is discussed later (pages 210-212).

TABLE 14

DATA BEARING UPON ACCELERATION OF ALL PUPILS HAVING AN INTELLIGENCE QUOTIENT OR EDUCATIONAL QUOTIENT OF 110 OR MORE OR EXCEEDING THE GRADE STANDARD BY A YEAR

	AMOUNT UNDERAGE IN MONTHS ²	INTELLI- GENCE QUOTIENT	EDUCA- TIONAL QUOTIENT	EDUCATIONAL AGE COMPARED WITH STANDARD
Forrest	-3	99	110	5 months above
Myrtle	1	135	125	1 year 7 months above
Minnie	-2	134	109	3 months above
Evelyn	0	102	110	4 months above
Frank	4	147	129	1 year 8 months above
Kenneth	1	106	125	1 year 7 months above
Susan ¹	3	134	139	-2 years 10 months above
Madge ¹	-5	115	113	11 months above
Rose ¹	0	104	110	7 months above

¹ Those chosen by the teacher as exceptionally able.

² A minus sign indicates that the pupil lacks the given amount of being underage.

The promising cases in their order are Susan, Frank, Myrtle, Madge, and Kenneth. We shall discuss them as individuals.

Susan is only as tall as the average fourth-grade girl. Her father is a foreman in a large manufacturing plant. Both father and mother attended high school. There are three other children in the family. As shown by her intelligence quotient, only one per cent of girls of her age are as able at ordinary school work. She is one of the few children who have ever received a special promotion in this school system.

Chart 13 gives Susan's educational record. When one considers the significance of her uniformly high standings, one can readily see the futility of putting Susan through the type of

instruction which is to be given to the other children during the coming half year. Even if there were no other reasons for immediate promotion, the difficulty of dealing with Susan through special assignments looms exceptionally large. If, however, we put her ahead into the next grade, the task of keeping up with the more mature pupils, together with that of making up the comparatively small amount of skills, and what to her will prove a small amount of content material, will not sufficiently challenge her abilities. Consideration might well be given to the enrichment of her educational opportunities through instrumental music lessons or opportunities in freehand drawing, in both of which lines she appears to have talent. These opportunities may well be given as soon as she has well under way the task of making up the work which will have been lost by skipping. For the first two months of the new term, or thereabout, Susan's program should be that of the regular low-sixth grade with the exception of the time spent on spelling. This time should be spent by Susan on individual assignments designed to cover the subject matter she has missed by skipping the high-fifth grade. Only a few assignments will be necessary in arithmetic, as she is already above standard in the fundamentals. The aim should be to give her training in elements that are informational in nature, which will not be obtained from her work in the higher grades. In arithmetic, representative problems are all that should be required. Spelling may be ignored. Assignments to read over the usual materials in the informational subjects, with simple tests of attainment, will be sufficient.

It will be but a matter of a few weeks until Susan has done all of this. She will be wasting no time in class and much of the material is already familiar to her. Her ability in reading will soon carry her to the point where she will have covered in a satisfactory manner the assignments given her.

When the make-up work is finished we again have the task of dealing with a pupil to whom the work of this mature group will

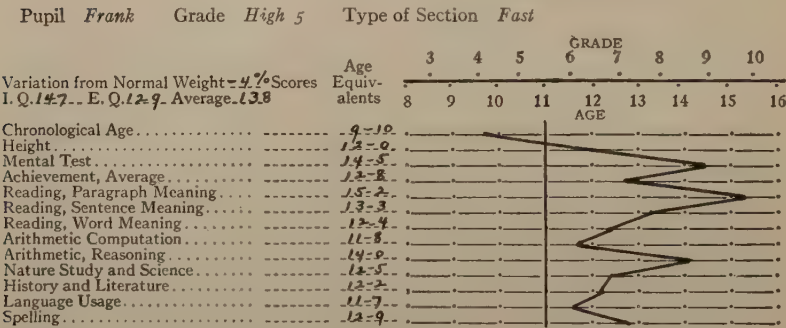
by that time be but child's play. That this is true is indicated again and again by reports from schools that have accelerated children. By the end of the next term these children ranked among the highest in the class to which they had been promoted. In other words, they generally relieve themselves of the unusual load by a spurt of real effort and are then ready to go back to their practice of dawdling. Perhaps part of this time could be spent practicing instrumental lessons, or doing individual work in freehand drawing, in both of which fields Susan appears to have special talent. This would enable her to spend more time out of doors in pursuits that will give her that greater reserve of health which the abler mentally need if they are to play their part successfully. If this is not feasible, let her be given more extensive individual assignments in history, geography, and literature. Let us so provide that while she works she may have that which will challenge her abilities. Let us at the same time make these hours of work pay Susan and the generation she is to serve the greatest possible dividends. Her great ability is a liability. The half dozen years the schools are privileged to have her must be used to prepare her in knowledge, good habits, in understanding of those with whom she will have to deal, in health, and in foresight to take the place which so few are really able to fill. We should not wait for the junior high school, the senior high school, the college, or life to accept the challenge. We have already waited too long to begin meeting Susan's problems.

Frank is large for his age. He is as tall as the average boy two years older. In ability to do ordinary school work as indicated by the intelligence test, he has talents even more rare than those of Susan. Only a small fraction of one per cent of all boys and girls are more able than Frank. Yet Frank has never received special promotion, nor has any treatment been given him other than that given to the average pupil.

Chart 14 gives Frank's educational record. He is particularly exceptional both in interpretative reading and in reasoning in

arithmetic. His weakest points are arithmetic computation and language usage. By taking things pretty much into his own hands, Frank has spent the minimum of time upon these drill subjects and given the time thus saved to things that have been more nearly a challenge to his abilities. It is of interest that the teacher last semester pointed him out as exceptionally poor in general ability, in leadership, in freehand drawing, and in attitude toward work. It is not surprising that she rated him low in his attitude toward work in the face of what must have appeared poor preparation in the drill subjects.

CHART 14
An exceptionally able boy in the high-fifth grade



The broken line represents Frank's record.
The vertical line shows the standard for the high-fifth grade.

Note: Frank's teacher rated him among the poorest five in his class in general ability, attitude toward work, leadership, and freehand drawing. The school has no record of any adjustments that have been made to this pupil as an individual. The music teacher notes that he lacks musical experience and that she does not expect him to sing alone.

In his work with the low-sixth grade, Frank may be excused from spelling, much of the formal work in arithmetic, and the mechanical aspects of reading. The assignments covering the high-fifth grade, which he is skipping, can be practically the same as those given Susan. As with Susan, the amount of time taken

to make up the work of the low-sixth grade will be less than a half year. During the remainder of the half year, his extra time can be spent upon special assignments in the informational fields or upon individual projects in freehand drawing. Since there is a tendency to underweight, particular attention should be given to his health.

Unlike Susan, Frank's physical and social development are such that further acceleration can be given him in the near future. If he responds to the treatment this term, he should be permitted to enter junior high school at the end of the half year. A part of his work during the latter half of the semester might well be that of covering the subject matter of the high-sixth grade in a manner similar to that used in covering the high-fifth grade the first part of the semester.

Care should be taken, however, to appeal to the scholarship level in all his undertakings. Where a common standard is satisfactory, as in penmanship or in computation in arithmetic, Frank should be expected to meet the satisfactory standard with a minimum expenditure of time. He should not be permitted to dawdle. This does not mean that school life shall be made more than ordinarily tense for him. With the individual projects carrying him afield into investigations that will be of practical use to him in or out of school, or in his planning of future work, the standard of the adequate should be early raised. He should be assigned jobs that can conceivably be completed, and then nothing less than adequate treatment should be considered of much merit. We should avoid giving him the impression that inadequate things are good simply because they are done by a boy. Their promise for future adequate attainment may well be pointed out, but nothing short of what would actually compete with adults should receive undue attention.

In *Creative Youth*¹ the fact is pointed out that the literary products of certain high-school students in competition with all

¹ Mearns Hugh, *Creative Youth*. Doubleday, Page and Co., 1925.

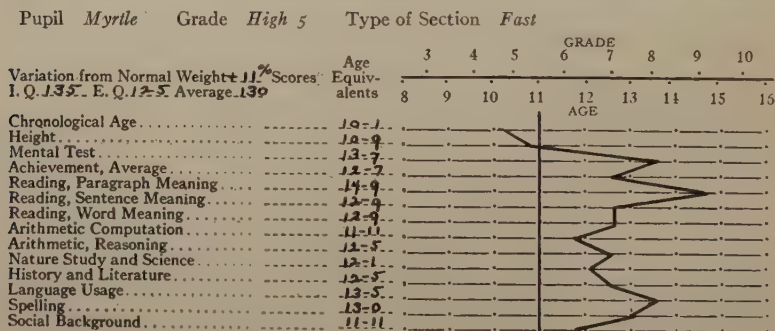
productions in the field were given places of rank, although the judges did not realize that the authors were but boys and girls. Nothing short of such rare achievement should receive marked attention.

Let us attempt to teach Frank to stand somewhat in awe of his heritage. Let us avoid giving him the impression that things that he has done with a dash of brilliance are particularly good just because they are better than those of his fellows. Let us teach him the habits, the attitudes, the state of mind, that will eventually, day in and day out, produce for civilization what an individual with his capacities is capable of producing. Let us teach him to work steadily, and with habitual alertness, toward worth-while goals.

Myrtle is one of the girls in the first row in Illustration 3, facing page 33. Her opportunities are much more meager than

CHART 15

A high-fifth-grade girl whose abilities were underestimated by her teacher



The broken line represents Myrtle's record.

The vertical line shows the standard for the high-fifth grade.

Note: Myrtle's teacher rated her as among the poorest five in her class in general ability, attitude toward work, leadership, language usage, arithmetic, and spelling. The teacher in charge of the school library reports that she must tell Myrtle the story of a book to arouse interest. No other individual treatment is being given. According to the school records, this pupil was allowed to skip the high-third grade.

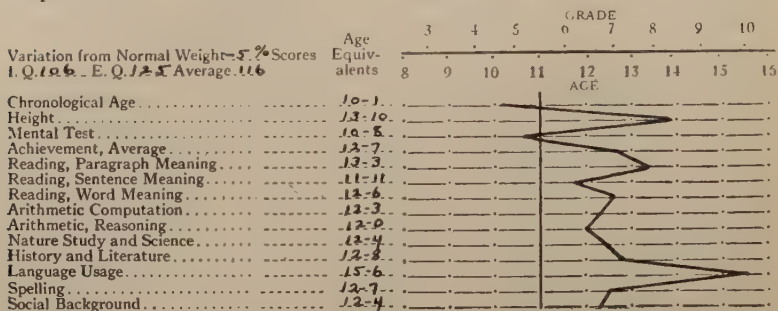
those of Susan and Frank. Like Susan, she has received one extra promotion, or skipping, in her school life. She is large for her age.

Chart 15 gives Myrtle's educational record. Her attainment is similar to Frank's. It is interesting that her language usage is better than Frank's in spite of the less adequate home environment. She may be excused from spelling and the formal work on language usage and reading. Her school program should be similar to Frank's, but not so extensive. Both the need of acceleration and her physical development suggest the possibility of placing her in the junior high school after this half year. Myrtle takes music lessons at home and at the same time is rated low in music in school. This fact should lead to an investigation to discover whether she is actually deficient in musical ability, or whether the nature of either the home work or the school work is having an undesirable effect upon her interest in this subject.

Kenneth skipped the low-second grade. The only way in which he attracted the particular attention of his teacher last term was in his exceptionally good work in music. Although the intelligence test did not rate him much above the average, and in spite of the fact that his last-term teacher did not rate him high in any subject except music, we discover that he is attaining better than a year above standard. From Chart 16 we see that his attainment is unusually uniform. The only marked variations are in interpretative reading and in language usage. Kenneth's low-sixth-grade program in the coming semester may well omit the formal work in language usage, spelling, and arithmetic computation until he has made up the work of the high-fifth grade which he should skip. From this high achievement we may well be suspicious of the low intelligence-test rating. If another intelligence test should confirm the suspicion that the present intelligence rating is too low, the possibilities of further advancement should be considered.

CHART 16

A boy who should be given a special promotion

Pupil *Kenneth* Grade *High 5* Type of Section *Fast*

The broken line represents Kenneth's record.

The vertical line shows the standard for the high-fifth grade.

Note: Kenneth's teacher rated him as among the best five in his class in music. There are no indications of any individual adjustment from the school records. At the present time the only attention he has attracted is in his work in music. The music teacher uses him as an example in individual singing.

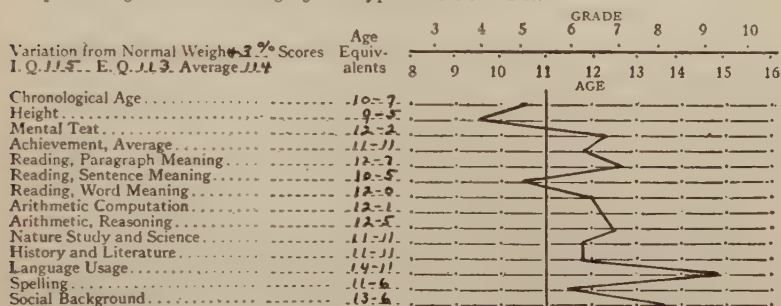
Madge is one of the little girls in the front row of Illustration 3. She is small for her age, and somewhat retarded in her social development. Chart 17 shows her to be particularly strong in language usage only. Her program in the low-sixth grade should exclude the work in language usage. Her work in the formal aspects of arithmetic may be made a minimum until she has satisfactorily covered the work of the high-fifth grade which she is skipping. This will take the greater part of the semester. After this semester her work should be enriched. She should be expected to do more extended work in the informational fields such as history and literature, and special opportunities may well be offered her in freehand drawing. The possibility of her taking instrumental music lessons should be canvassed. Whether such work is given by the school or upon the initiative of the home, it should be considered in planning the pupil's program.

The pupil who is taking music or dancing lessons at home may be compared with the pupil taking an extra subject in school.

CHART 17

A fifth-grade girl who should be given more help and special promotion

Pupil *Madge* Grade *High 5* Type of Section *Fast*



The broken line represents Madge's record.

The vertical line shows the standard for the high-fifth grade.

Note: Madge's teacher rated her as among the best five in her class in attitude toward work, language usage, freehand drawing, arithmetic, and spelling. There are no records of individual attention given Madge in the past, and she is not now receiving individual attention.

Joan, Chart 3, page 64, is an overage girl for whom special promotion was recommended in Chapter II. She will need further acceleration. After a half year, she may well be further accelerated into the junior high school, where a wise scheduling of her time will provide both the enrichment of educational opportunity that she particularly needs, and the further acceleration of which she is capable and for which there appears to be ample warrant. Her father is dead. Her mother supports Joan and two other children. Although Joan, who looks forward to being a school-teacher, does not realize it, the fates have been conspiring against her. In three years, the laws of the state will permit her to go to work. With a continuation of the present neglect, Joan will at that time be entering the upper half of the eighth grade. Between her and the cherished work she

wishes to do will be four years of high school and the teacher-training course. If, instead, Joan is entering the eleventh grade when this time comes, the economic sacrifice will seem much less and Joan's chance of staying in school will be much improved. Joan is large for her age. There is no reason why she should not have been accelerated a year or a year and a half by this time.

From the above consideration of individuals, we have discovered no case where our original judgment as to the possibilities for acceleration has been found to be faulty. From the consideration of the more detailed data, however, we were able to look farther into the future needs of these pupils and shape their programs accordingly.

Analysis of the Records of a Second-Grade Class

Considerations are much the same for teachers of lower grades. The lower the grade the more attention must be given the matter of age, and the less exact is the information available. To offset this, there is less content material for a pupil to skip than in the upper grades.

The boys and girls in Illustration 11 made up the brighter of the two sections of a second grade in a school which has annual promotions. They were chosen as brighter by means of an intelligence test given at the beginning of the first grade. The grouping determined by the intelligence test was changed somewhat according to the judgment of the teacher. Of the twenty-four children in the higher-ability section, there were eleven who in some significant manner stood out from their group. These eleven were chosen by selecting those pupils who were rated by their teacher as exceptional in mental ability or in reading ability, or who in the test obtained a standing entitling them to intelligence quotients or reading quotients of 110 or more.¹

¹ The reading quotient is determined by dividing the reading age by the chronological age and expressing the result in hundredths. An eight-year-old pupil reading as well as the average ten-year-old has a reading quotient of 125. Like the educational quotient, the reading quotient has some value as a measure of brightness.

Table 15 gives the intelligence quotient, reading quotient, and other information for each of these eleven children.

TABLE 15

PUPILS RATED BY THEIR TEACHER AS EXCEPTIONAL WITH RESPECT TO GENERAL ABILITY OR READING ABILITY, OR OBTAINING TEST STANDINGS ENTITLING THEM TO INTELLIGENCE QUOTIENTS OR READING QUOTIENTS OF 110 OR MORE

NAME	MONTHS UNDER-AGE ¹	ITEMS IN WHICH TEACHER RATED PUPILS ²		INTELLIGENCE QUOTIENT	READING QUOTIENT	READING AGE COMPARED WITH STANDARD
		Exceptionally Good	Exceptionally Poor			
Mabel	3	1, 2, 4, 5, 6, 7, 14		106	105	9 mos. above
Emma	-2	3, 4, 9, 11, 14, 16		120	58	3 yrs. 5 mos. below
Dora	-10	9, 11, 14, 18		110	111	1 yr. above
Donnah	-1			113	71	2 yrs. 7 mos. below
Mary	-14			133	94	2 mos. above
Lester	1		9	153	100	9 mos. below
Alfred	-3	1, 2, 3, 4, 5, 6, 7, 8, 11, 14, 16, 17, 18		121	133	1 yr. 11 mos. above
Giles	-9	1, 2, 3, 4, 5, 7, 8, 11, 12, 14, 16, 18		109	98	1 mo. below
Frank	-1	1, 7, 9, 16, 17, 18		130	101	7 mos. below
Henry	-4	1, 3, 4, 6, 7, 8, 9, 16, 17, 18		107	119	1 yr. 1 mo. above
Charles	0	2, 5	8, 14	110	90	6 mos. below

¹ Minus sign indicates that pupil lacks the given amount of being underage.

² Code:

- | | |
|--|------------------------|
| 1. General ability | 10. Industrial arts |
| 2. Personal neatness | 11. Projects |
| 3. Leadership | 12. Drawing |
| 4. Ability to work with other children | 13. Art appreciation |
| 5. Health habits | 14. Singing |
| 6. Oral expression | 15. Music appreciation |
| 7. Reading | 16. Organized play |
| 8. Writing | 17. Dramatization |
| 9. Numbers and measure | 18. Nature knowledge |

The first pupil listed, Mabel, was rated by her teacher as exceptional in general ability, personal neatness, ability to work with other children, health habits, oral expression, reading, and singing. She was not rated by her teacher as exceptionally poor

in any of the eighteen items on which members of the class were rated. Her I. Q. is 106 and her reading quotient is 105. Her standing in reading is 9 months above the standard for her grade. She is 3 months underage for her present grade. There is probably not reason enough to accelerate Mabel.

Emma is not rated by her teacher as exceptional in either general ability or reading ability. While she has an I. Q. of 120 according to the test, her reading quotient falls to 58. Her achievement in reading is almost nil.

Dora would be only 2 months underage if she were put forward a year. Although she is not rated exceptional in either intelligence or in reading, she has an I. Q. of 110 and a reading quotient of 111, and her achievement in reading is a year ahead of the standard of her present grade.

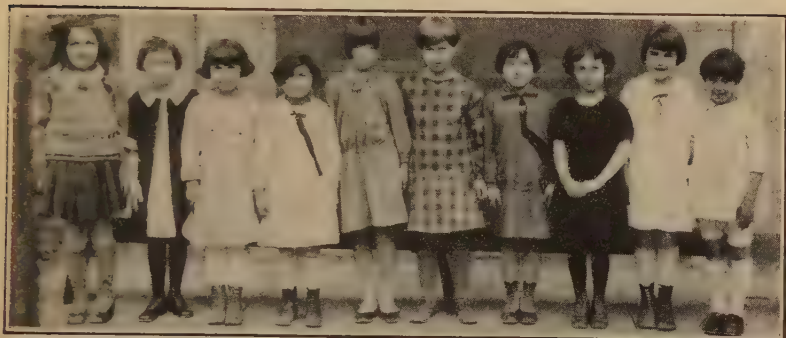
Donnah, who rates 113 in intelligence, stands but little better than Emma in reading.

Mary would not be underage if she were accelerated a year. She is not rated as outstanding either positively or negatively in any of the eighteen points, yet her I. Q. is 133 and her standing in reading is slightly ahead of the standard of her present grade. Although she obviously has the ability to go at a more rapid rate, the school is failing to make the proper appeal to her.

Lester is considerably younger than Mary, but in other respects his case is similar. In spite of an I. Q. of 153, he has made little headway in school. The only outstanding rating given him by his teacher is a negative one in numbers.

If Alfred were accelerated a year, he would be but nine months underage. He is rated by his teacher as exceptionally good in thirteen of the eighteen items, including general ability and reading. He has an I. Q. of 121 and a reading quotient of 133, and is reading on a level almost two years ahead of the present class. He should be accelerated. Attention should not stop here, however. He should be given a gradually broadened curriculum so that another early acceleration may be avoided.

ILLUSTRATION 11
A SECOND-GRADE CLASS IN A TRADITIONAL SCHOOL



Four of these boys and girls could do satisfactorily the work in a higher grade. They would not be markedly underage for the grade higher. Two of them have mental abilities that far outstrip their present achievement.

(Facing 144)

Giles could be accelerated and be but 3 months underage. He is rated by his teacher as exceptionally good in twelve items, including general ability and reading. He has an I. Q. of 109, but has failed to realize his capacity in reading. He is at present somewhat below the standard for his grade.

While Frank is rated high by his teacher in general ability, reading, and four other items, and has the high-ability rating confirmed by a test standing that indicated an I. Q. of 130, he is more than a half year below his present grade standing in reading.

If Henry were accelerated, he would be 8 months underage for his grade. He is rated by his teacher as exceptional in ten items, including general ability and reading. His I. Q. is 107, his reading quotient 119, and his achievement in reading is a year ahead of the present-grade standard. He may be accelerated to the grade ahead.

Charles is another case of high I. Q. and low ability in reading.

A similar analysis of the records of the children in the lower section of this grade revealed no pupil with an intelligence quotient or a reading quotient in excess of 91.

Acceleration in the Junior and Senior High Schools

The problem that faces the home-room or advisory teacher of the group shown in Illustration 7, facing page 80, is much the same as that faced by the fifth-grade teacher. The core of the seventh-grade curriculum is largely a continuation of elementary-school subjects. Occasionally, even in a junior high school, it will be desirable to have a pupil omit the seventh grade. If the pupil in Chart 14, page 136, were allowed to continue in the traditional school through the seventh grade, his achievement in the elementary subjects would be considered of such worth that he could be allowed to go on into the eighth grade with boys and girls of his own age. Making a similar arrangement in the junior high school would not necessarily demand the omission

on the part of the pupil of the broadening and finding courses of the seventh grade. In the eighth grade in a traditional school, the problem is the same as for the seventh grade.

The fact that many pupils have attained sufficient mastery of elementary-school subjects by the time they have passed through the seven years of the traditional school, is particularly responsible for the development of the seven-grade elementary schools found in several states. It is likewise a particular reason for the junior-high-school movement, which begins the differentiating of courses or curricula in the eighth grade. The problem in the eighth grade in a junior-high-school organization is therefore parallel to the problem faced in the senior high school. Here we no longer expect every pupil to carry all the subjects offered in the grade. He makes a selection from a broader field than any one pupil can cover. Acceleration may no longer come from the skipping process recommended in the elementary grades. It comes rather through permitting the pupil to take more than the normal number of subjects. He may thus be permitted to meet the requirements for graduation in less than normal time. Exception to this will occur only when a pupil has reached a mastery of a subject, such as a foreign language or English, that will justify his being permitted to omit the elementary work in the subject.

An able pupil may have any one of the following three programs that will result in enriched experience over and above that of the normal pupil; or he may have some combination of these programs:

1. A normal number of subjects with adjusted assignments in one or more subjects; that is, assignments that require a more complete mastery, a broader field of knowledge, or a more extensive application of principles.
2. More than the normal number of subjects with the ordinary type of work in each.
3. The normal number of subjects, but with one or more of

these subjects covered at such a rate that more than a normal unit of the ordinary work is given in a term.

Whether any one of these plans results in a more extensive high-school course or in its alternative, a shorter time spent in high school, is determined by the regulations for graduation. In some school systems, pupils who do work above a satisfactory level are given extra credit which may count toward graduation if it seems desirable. That is, a pupil may take a large number of subjects and do average work, or a smaller number and do superior work. In case a pupil takes an ordinary load and does exceptional work, he will accumulate the credit necessary for graduation at an earlier date than his fellow pupils who take the same courses but do less satisfactory work.

The plan of carrying different numbers of subjects, each of which counts as much toward graduation if carried satisfactorily as if it is carried with a high degree of excellence, is the more common. Where a pupil carries more than the normal number of subjects satisfactorily under this plan, he accumulates credit sufficient for graduation in less than the normal time.

The third plan is an adaptation of the second. In this a pupil carries two terms of a subject in one term, or three terms in two terms, thereby accumulating credit for graduation at an earlier date. That is, for three subjects he receives three units of credit, while for the fourth he receives a unit and a half or two units.

Whether or not a pupil is accelerated becomes, therefore, a matter of his ability to do more excellent work, to carry more subjects, or to carry some subjects at a higher rate. Certainly, unless an unusually able student has poor health, or more than the normal number of outside activities, or desires to carry more extra-curricular activities, everything is in favor of his carrying a more extensive load than that of the average pupil.

What, then, of the pupil who is already as much underage as is desirable? Shall he spend the full time in high school carrying a normal load? The answer is, *certainly not*. Such proce-

dure would be inadequate for him. A way out of the dilemma is to have an arrangement whereby no pupil may finish high school in less than the normal number of years, regardless of credits, without special permission from the school principal. There should be no difficulty in obtaining this permission in any case where it seems to be desirable. The diplomas, however, and the graduation programs should carry a statement of the facts. Pupils who are not permitted to complete requirements in the minimum time in which they can make the minimum credits will prize the opportunity of carrying away the record of their exceptional achievements.

At first thought it would appear that, after a pupil has passed the seventh grade, the problem of acceleration resolves itself into one of regulations for entering and graduating from senior high school. If this were true, the advisory teacher would only need to discover the able pupils, help them plan programs commensurate with their abilities, and leave the matter of graduation requirements to be determined late in the pupil's high-school career. But the problem really is not so simple. Pupils are almost universally required to cover certain basic courses in order to be graduated from any curriculum which the high school offers. Plans must be so laid that the pupil who is to graduate in less than the normal time may complete these basic courses. He may need to take two courses in English, or in mathematics or in the social sciences, during the same term. As a result, the able pupil who takes the normal time to complete his graduation requirements will have a distinctly broadened course, the pupil whose graduation is accelerated will complete a course little or no broader than the corresponding course of the pupils of average ability. In planning the course of the able pupil whose graduation is to be accelerated, there will be but little opportunity to branch out into new fields or to require more extensive mastery of the ordinary fields.

For example, contrast the records of the two groups of high-

school graduates in Table 16. The pupils in the first group finished the minimum work required for graduation. The pupils in the second group came up for graduation with a much more extensive record of achievement and experience. The school work of this second group of boys and girls took them not only into a wide breadth of fields, but also gave them a satisfactory grounding in an unusual number of fields. Of the pupils who

TABLE 16

RECORDS OF MAJOR AND MINOR SUBJECTS CARRIED BY TWO GROUPS OF A GRADUATING CLASS OF A FOUR-YEAR HIGH SCHOOL

	PUPIL	MAJOR SUBJECTS (SUBJECTS PURSUED THREE YEARS) ¹	MINOR SUBJECTS (SUBJECTS PURSUED TWO YEARS)
Pupils Who Were Graduated with the Normal Num- ber of Credits	1. (Girl)	A F F	F
	2. (Girl)	A F	B C D
	3. (Girl)	A D I	C
	4. (Boy)	A B G	G
	5. (Boy)	A B D	—
	6. (Girl)	A C —	B D
	7. (Girl)	A C D	B
	8. (Boy)	A D	B C
	9. (Boy)	A D	B C F
	10. (Boy)	A B	C D G
Pupils Who Were Graduated with Extra Credits	1. (Girl)	A A C D F	B E
	2. (Boy)	A B G D C	E
	3. (Boy)	A B D G C	G
	4. (Girl)	A C	B C D I
	5. (Boy)	A B G G G	C
	6. (Boy)	A I	A B C D
	7. (Girl)	A B C C D	—
	8. (Boy)	A C	A B D E I
	9. (Girl)	A B C F F	D
	10. (Boy)	A B C H	C D G

¹ Code:

- | | |
|---------------------|--|
| A. English | H. Drafting |
| B. Mathematics | I. Music |
| C. Foreign Language | J. Art and Design |
| D. Social Science | K. Home Economics |
| E. Science | L. Physical Training and Military Training |
| F. Commercial | M. Physical Training and Hygiene |
| G. Shop | |

were graduated with the normal number of credits, not one had three years of work in more than three subjects. Of the ten listed who were graduated with extra credits, six had at least three years of work in four subjects, and two had at least three years of work in five subjects. One of these pupils had six years¹ of work in English; one had nine years of shop work; one, six years of language; and one, six years of commercial work. Pupil 8 in the second part of this table chose an extensive rather than an intensive study of several fields. He had five years of work in English, three or four years of work in foreign languages, and two years' work in each of the following: mathematics, social science, science, and music. Pupil 7, on the other hand, took not less than three years' work in any subject which she saw fit to carry for more than a year.

From this it may be seen that in helping any exceptionally able pupil in junior or senior high school in laying out his course, it is of considerable importance to raise the question of whether or not this pupil should complete the remainder of his high-school course in less than the normal time. The boy who majored in three shop courses, English, and mathematics, used the high school as a broad educational institution. So did the girl who added to her two commercial majors, majors in mathematics and a foreign language. Contrast her use of the school with that of the first pupil in the table, who gained a year in finishing school. The plans for the high-school courses of these two pupils were markedly different from the beginning, although they were preparing for much the same work after their graduation from high school.

The tenth-grade girl reported in Chart 18 gives us an excellent example of a case where the course to be followed may be determined readily, yet the school which Marian is attending has neglected to do anything about it. Marian is carrying a normal

¹ During two of the four high-school years, this pupil carried two full-credit English courses.

CHART 18

Father's occupation Letter Carrier Number in family Five
Own or rent your home? Rent What work do you do for money? Make beads now
Member of what clubs or societies? Order of Rainbow for Girls
Favorite hobby Drawing and reading Amusement Motion pictures and sports
Going to college or work? College if possible
Will you have to earn all, some, or none of your college expenses? All
What occupation are you thinking of taking up? Commercial Art
Why do you want to do this? Because I like to draw
Where did you get the idea? From Drawing. People told me I should
Why do you think you would succeed in this work? Because I think I have some talent
in it and I like it very much.
Parents' ambition for you To succeed — that is all.

General ability	Attitude	Accuracy	Sportsmanship
Mechanical ability	Initiative	Promptness	Leadership
Artistic ability	Personal appearance	Courtesy	Citizenship
Musical ability	Perseverance	Ambition	Use of English
Dramatic ability	Industry	Reliability	
General Health	<i>Good</i>	Regular in attendance	<i>Yes</i>

Height 62

Age
Equiv.

Chronological Age.....	15-2
Mental Test.....	18-0
Reading Test.....	18-2

Grade Scale

Age Scale

Age Scale

The boy represented by Chart 19 is likewise in need of acceleration. As he is now progressing, he will finish high school at the age of eighteen and a half, and college, if he finishes at all, at twenty-two and a half. Acceleration that would bring about the possibility of his finishing college at twenty-one, or even twenty, would improve the chances of having his parents continue to want what this boy phrases as "*whatever I want to do.*"

CHART 19

A tenth-grade boy who should be accelerated

Father's occupation Packer Number in Family 3
 Own or rent your house? Charge of lodging house
 What do you study besides school work? Nothing but books. Have taken piano
 What work do you do for money? General assistant in store
 Member of what clubs or societies? None Where have you traveled? Nova Scotia and New Hampshire
 Favorite hobby Piano Amusement Books or outdoor hikes alone
 Going to college or work College Where No idea
 Will you have to earn all, some, or none of your college expenses? Probably all
 What occupation are you thinking of taking up? Literature and writing
 Why do you want to do this? I like it and think I have the ability
 Where did you get the idea? Couldn't tell. "Just grewed"
 Why do you think you would succeed in this work? I think I can write well. Just a sort of conviction.
 Parents' ambition for you Whatever I want to do

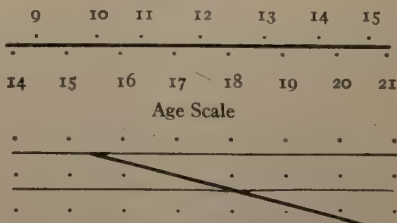
For Home-Room Teacher: Draw a line through each item in which this pupil is one of the best five in his class; encircle each in which he is one of the poorest five.

General ability	Attitude	Accuracy	Sportsmanship
Mechanical ability	Initiative	Promptness	Leadership
Artistic ability	Personal appearance	Courtesy	Citizenship
Musical ability	Perseverance	Ambition	Use of English
Dramatic ability	Industry	Reliability	

Regular in attendance YesI. Q. 122Height 68

Chronological Age..... 15-6
 Mental Test..... 18-0
 Reading Test..... 20-6

Grade Scale



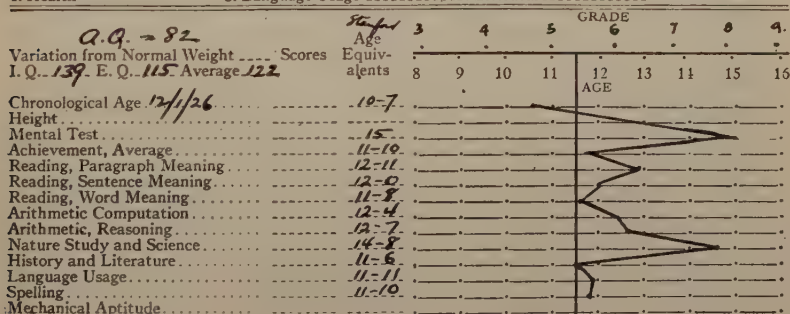
ACCELERATION AND ENRICHMENT

Each of the following pupils is in one way or another considerably above the average of his class.

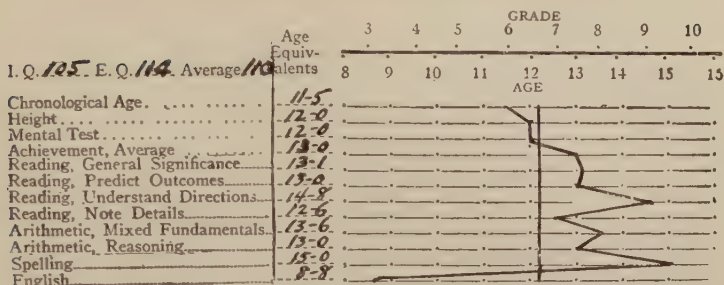
Grades skipped. 2 Grades repeated. 0 Half years spent in kindergarten. 1 1/2 years Does pupil expect to go to high school? Yes College? No
What does he want to do when he finishes school? doesn't know
Does he take music lessons outside of school? No Other lessons, if any, outside of school? No
Member of the following school teams or other organizations:
Football and Health Club Outside organizations: _____
What musical instruments? _____
What magazine does he read most? Field & Stream How is out-of-school time spent? Sells
magazines Is there a room in the home where he can study by himself? No What kind of music does he like best? Saxophone Has he a card for the public library? Yes Times each week spent at the movies? 4 What language is spoken in the home? English How many books in the home? 100
Specific Weaknesses. _____
Physical Defects Tonsils Adenoids _____
Too mature socially for this group? No Too immature? No Does the program of this pupil vary from that of the class as a whole in any manner? No
Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) No _____
Variations from section program at any time in past (give grade, type of section, and nature of variation) _____
Any other irregular features in this pupil's school history _____

Enrollment in this class 40 Type of class normal
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

- | | | | |
|-------------------------|---------------------------|---------------------|---------------|
| 1. General Ability | 5. Leadership | 9. Freehand Drawing | 13. Spelling |
| 2. Mechanical Ability | 6. Reading | 10. Arithmetic | 14. Music |
| 3. Attitude toward Work | 7. Nature Study & Science | 11. History | 15. Shop Work |
| 4. Health | 8. Language Usage | 12. Literature | |



4. Girl, Grade Six, Annual-Promotion School



5. Boy, Grade Five, Annual-Promotion School

Entrance grade in this school system 1 Entrance grade in this school 5

Grades skipped none Grades repeated none Half years spent in kindergarten 4 Does pupil expect to go to high school? Yes College? Yes

What does he want to do when he finishes school? draw cartoons

Does he take music lessons outside of school? Yes Other lessons, if any, outside of school? no

Member of the following school teams or other organizations: none

Outside organizations: none

What musical instruments? none

What magazine does he read most? Nat. Geographic How is out-of-school time spent? plays

Does errands Is there a room in the home where he can study by himself? Yes What kind of music does he like best? Rock and roll Has he a card for the public library? Yes Times each week spent at the movies? twice What language is spoken in the home? English How many books in the home? 300

Specific Weaknesses English

Physical Defects none

Too mature socially for this group? Yes Too immature? Yes Does the program of this pupil vary from that of the class as a whole in any manner? Yes

Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) Yes

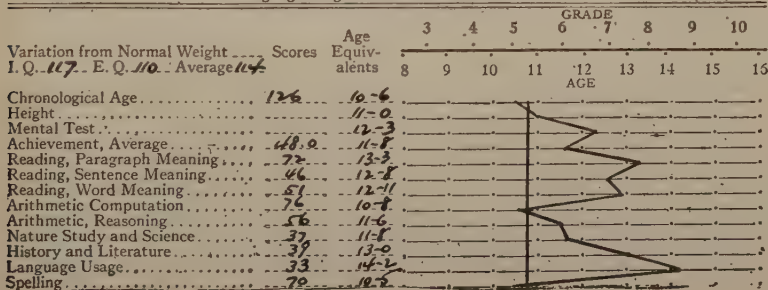
Variations from section program at any time in past (give grade, type of section, and nature of variation) none

Any other irregular features in this pupil's school history none

Enrollment in this class 47 Type of class Average

Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

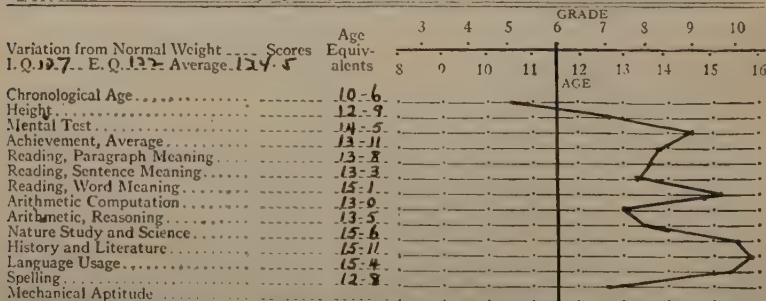
1. General Ability	5. Leadership	9. Freehand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	



C. Boy, Grade Six, Annual-Promotion School

Entrance grade in this school system... 1. B Entrance grade in this school... 1. B
 Grades skipped... None Grades repeated... None Half years spent in kindergarten...
 Does pupil expect to go to high school? Yes College? Yes
 What does he want to do when he finishes school? No idea
 Does he take music lessons outside of school? No Other lessons, if any, outside of school?
Sunday School Member of the following school teams or other organizations:
 Outside organizations: Sir Galahad
 What musical instruments? None
 What magazine does he read most? None How is out-of-school time spent? Play
read Is there a room in the home where he can study by himself? Yes
 What kind of music does he like best? None Has he a card for the public library? Yes
 Times each week spent at the movies? 1 What language is spoken in the home? English
 How many books in the home? 60
 Specific Weaknesses
 Physical Defects
 Too mature socially for this group? No Too immature? No Does the program of this pupil vary from that of the class as a whole in any manner? No
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) No
 Variations from section program at any time in past (give grade, type of section, and nature of variation)
None
 Any other irregular features in this pupil's school history... None

Enrollment in this class... Type of class... Normal
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability 5. Leadership 9. Freehand Drawing C 13. Spelling A
 2. Mechanical Ability 6. Reading B 10. Arithmetic B 14. Music B
 3. Attitude toward Work 7. Nature Study & Science B 11. History B 15. Shop Work
 4. Health 8. Language Usage B 12. Literature B



Pupil's Record... Record of Section to which assigned.
 Use vertical line to represent grade standard.

7. Girl, Grade Five Low, Semiannual-Promotion School

Grades skipped..... Grades repeated..... Half years spent in kindergarten..... Does pupil expect to go to high school? Yes College? Yes
 What does he want to do when he finishes school? Sevi
 Does he take music lessons outside of school? Yes Other lessons, if any, outside of school?.....
Volley Ball Member of the following school teams or other organizations:.....
 Outside organizations:.....

What musical instruments? Piano
 What magazine does he read most American Child Life How is out-of-school time spent? Play
Helps at Home Is there a room in the home where he can study by himself? No What kind of music does he like best? Violon Has he a card for the public library? Yes Times each week spent at the movies? 1 What language is spoken in the home? Eng. Lish How many books in the home? 150
 Specific Weaknesses.....

Physical Defects.....
 Too mature socially for this group? Yes Too immature? Yes Does the program of this pupil vary from that of the class as a whole in any manner?.....

Enrollment in this class 18 Type of class Below average
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

1. General Ability	5. Leadership	9. Freehand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	

Q. Q. = 107		Stanford-B	GRADE									
Variation from Normal Weight	Scores	Age Equivalents	3	4	5	6	7	8	9			
I. Q. = 118	E. Q. = 127	Average = 122	8	9	10	11	12	13	14	15	16	
Chronological Age	12/1/26	9-11	10-1									
Height												
Mental Test	11-9	12-1										
Achievement, Average		12-7										
Reading, Paragraph Meaning		14-6										
Reading, Sentence Meaning		14-9										
Reading, Word Meaning		12-8										
Arithmetic Computation		11-4										
Arithmetic, Reasoning		12-1										
Nature Study and Science		13-8										
History and Literature		13-3										
Language Usage		15-11										
Spelling		11-4										
Mechanical Aptitude												

Assignment: 1. Choose those pupils who should be permitted to skip the work of a term.

2. Make suggestions for the program of each pupil.

3. Is there any pupil who should not be accelerated at present, but should be allowed to finish high school in less time than his present classmates? If so, when would the acceleration take place? Why? By what method could it be assured that acceleration would take place?

4. Take the normal program of any group with which you are familiar and show what changes you would make to adapt it to any of these pupils who, in your judgment, should remain with their present class.

5. In the school in which pupils 1 and 7 are enrolled, there are three five-low classes. They are divided, according to ability, into a normal section, a better section, and a poorer section. Are these pupils properly placed?

6. What information not given here would you add in order to make your judgment sounder?

PROBLEM 11

EXCEPTIONAL PUPILS IN HIGH SCHOOL

Planning a high-school program for an exceptional pupil.

Here follows the record of a boy who has just completed the seventh grade in a traditional school:

Entrance grade in this school system 1 Entrance grade in this school 1
 Grades skipped none Grades repeated none Half years spent in kindergarten no
 Does pupil expect to go to high school? yes College? yes
 What does he want to do when he finishes school? Doctor
 Does he take music lessons outside of school? no Other lessons, if any, outside of school? no
 Member of the following school teams or other organizations: Junior Police
 Outside organizations: none
 What musical instruments? piano
 What magazine does he read most? Popular Mechanics
 How is out-of-school time spent? work
 Is there a room in the home where he can study by himself? yes What kind of music does he like best? singing Has he a card for the public library? yes
 Times each week spent at the movies? none What language is spoken in the home? English
 How many books in the home? many
 Specific Weaknesses: carelessness
 Physical Defects: stutters some
 Too mature socially for this group? no Too immature? no Does the program of this pupil vary from that of the class as a whole in any manner?
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success)
 Variations from section program at any time in past (give grade, type of section, and nature of variation)

Any other irregular features in this pupil's school history

Enrollment in this class 23 Type of class
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability 5. Leadership 9. Freehand Drawing B 13. Spelling B
 2. Mechanical Ability 6. Reading B 10. Arithmetic B 14. Music B
 3. Attitude toward Work 7. Nature Study & Science 11. History B 15. Shop Work
 4. Health 8. Language Usage B 12. Literature Photography

Variation from Normal Weight	Scores	Age Equivalents	GRADE									
			3	4	5	6	7	8	9	10		
I. Q. <u>139</u>	E. Q. <u>129</u>	Average <u>134</u>	8	9	10	11	12	13	14	15	16	
Chronological Age	<u>12-6</u>											
Height	<u>15-6</u>											
Mental Test	<u>17-4</u>											
Achievement, Average	<u>16-2</u>											
Reading, Paragraph Meaning	<u>16-5</u>											
Reading, General Significance	<u>19-0</u>											
Reading, Predict Outcome	<u>18-0</u>											
Reading, Precise Directions	<u>18-0</u>											
Reading, Note Details	<u>18-4</u>											
Arithmetic Computation	<u>17-4</u>											
Arithmetic, Reasoning	<u>16-9</u>											
Nature Study and Science	<u>17-11</u>											
History and Literature	<u>16-3</u>											
Language Usage	<u>14-6</u>											
Spelling	<u>15-0</u>											
Mechanical Aptitude												

Pupil's Record. Record of Section to which assigned.
 Use vertical line to represent grade standard.

Assignment: 1. Using the junior-high-school offerings in Problem 7, Chapter III, and assuming that these offerings are supplemented by unlimited opportunities upon the high-school level, plan this pupil's curriculum in junior and senior high school with special attention to: (a) Nature of courses to be carried; (b) Breadth of curriculum; (c) Acceleration.

2. Plan this pupil's course in a traditional seventh-grade and eighth-grade school supplemented by the high-school offerings of Problem 6.

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CHAPTER V

THE USES OF RETARDATION IN PLANNING PUPILS' PROGRAMS

BY retardation is commonly meant the slowing up of a pupil in his progress through school as a result of any cause. Mainly it has served two purposes. It has been used as a corrective for failure for all types of pupils and as a means of adjusting schools to low-ability pupils.

Retardation as an Adjustment to Low Ability in Elementary and High Schools

It is the latter aspect of the problem of retardation — retardation as a means of adjusting schools to low ability — that is treated in this section. Retardation as a device for correcting the failure of pupils to attain reasonable standards is discussed in the section that follows. In dealing with pupils on any level in the elementary or the secondary school, it is essential for the teacher to have a clear understanding of the place retardation should have.

Let us begin at the point where retardation as an adjustment to low ability finds its beginning — in the kindergarten — and trace it through its various phases.

Peter has spent a year in the kindergarten. He has now reached the age at which children are normally accepted into the first grade. But mentally Peter is not six years of age. He has reached the maturity of a child of five. The Kindergarten teacher has sent Peter on to you, a first-grade teacher. What should you expect of him? You know that Peter is incapable of doing first-grade work successfully. Should you then attempt

the impossible? Should you go upon the basis that in two terms he will probably be able to do enough to go on to the next higher grade? The latter treatment will probably result in similar retardation throughout his school life. William and Jack, described in Chapter II, were just such cases seven years ago.

If all the six-year-old children with whom we had to deal were as dull as Peter, our school system would probably have its first grade adjusted to the stride of Peter and those who were near enough to his mental level, with the time spent upon school from day to day varying sufficiently to make up for ability differences. The Peters have therefore been unlucky. They must clamber up mental stairs built for greater statures. Since much of the work of the elementary grades has dealt with skills, we have assumed that all that such pupils need is more practice. To the degree to which this is true, care must be taken to give practice exercises which they can do, or there will be no practice. Herein is the failure of the plan of caring for Peter with normal children.

To meet this objection some schools have taken the step of providing separate classes for such pupils so that they can take as much as 50 per cent more time to cover the work of the elementary grades. The same work is required, but the work of six ordinary years is distributed over eight or nine years. The result for the boys and girls who are successful under this system is a sixth-grade education.

In the recommendation that calls for placing overage pupils such as William and Jack in the junior high school, we find a different attitude cropping out. There is a growing discontent with requiring the dull pupil to spend his entire educational life on work planned for the first six years of the school life of the normal pupil. There is a feeling that the world which the modern seventh and eighth grades open up to twelve-year-old and thirteen-year-old boys and girls has much of value for a dull pupil such as Peter. When Peter becomes thirteen years old, he may be but ten years old mentally, but physiologically he is not

necessarily retarded. He, too, should have opportunities in the last years in school to study community civics, to learn about vocations, and perhaps take specific training that will better fit him to earn a livelihood.

This newer attitude toward Peter would indicate that the skills which he obtains in his first six years need not be so highly developed, and although the knowledge should be of much the same character, it should be less extensive. At twelve, Peter will read with fifth-grade ability and he will have covered the essential content subjects through the first six grades. He will spell less readily and express himself in writing with less ease than a normal pupil. However, he will be ready to enter a junior-high-school course in character and opportunities similar to those of other boys of his age, but demanding less intellectual ability.

When he attains the high-school level, he will be led to choose a curriculum in which he can work successfully. In some lines of work he may prove to be exceptionally good, but his certificate of promotion from the eighth grade or the junior high school will bear upon it the mark that will not permit him to carry work beyond his intellect.

At sixteen he may discontinue school with a diploma showing a major in some vocational subject, or at eighteen he may graduate from high school with a specialized diploma that indicates the type of work he has carried successfully.

To summarize, retardation in the elementary school as an adjustment to individual differences in ability to do ordinary school work is coming into disrepute. There is less tendency now to set the same minimum standards of achievement for all children in the skills and habits taught in the elementary schools. In place of this too simple theory has come a theory more in keeping both with the practical results to be sought and with the possibilities of successful attainment. There is a strong tendency to establish one set of minimum standards for children of the mentally retarded type, another set for the dull-normal group,

and a third set for children of average and more than average ability.

While this does not necessarily mean that children of the dull normal type shall not spend more than normal time in the mastery of skills, it seems to point to the conclusion that the lack of mastery of skills shall not be taken as reason enough to keep them from entering the junior and senior high school with children of their own age, or from participating in other aspects of education.

Occasionally a pupil is found, even in traditional high schools, who must spend some time in improving himself in reading, arithmetic, spelling, or language usage. Forward-looking schools have for some time helped pupils meet such lacks by direct instruction. Penmanship and spelling have for years been in this category. Of late, high-school English courses are being developed to take pupils where they are and improve them in reading, language usage, and oral expression. All this, while it may at first be disturbing for high-school teachers, is as much a feature of all aspects of high-school work of the future as is progress a feature of American education.

In the junior and senior high school, however, the question of retardation as an adjustment to abilities has different aspects. If a pupil can complete an entirely desirable course by spending more than normal time, there is no reason why the longer period of time should not be used.

Cases where retardation is a planned feature of the program of a pupil should be less rare. As an example, if the parents of a pupil of ordinary intelligence are interested in his preparation for college, the school may well embark upon a program that will make this possible, by reducing the number of subjects to be carried and expecting satisfactory mastery of the limited program. Such a plan calls for special assignments. Lack of such special attention often results in the failure of pupils who carry fewer than the normal number of subjects. When a pupil of

ability lower than a course demands is allowed to enter upon that course, it may well be with the distinct understanding that he is choosing a program, the successful completion of which will require more than normal time.

Failure and Repeating in the Elementary Grades

The rejection of the old-time excuse for retardation, and the provision of different curriculum requirements, will go a long way in eliminating repeating. Many cases of failure under the old theory are successes when viewed in the light of the new. But not all failure is thus avoided.

However adequate the provisions for preventing failure may be, there will be pupils who will fail to attain fair standards. Not all such children should necessarily repeat the grade. Some of them, perhaps most of them, may find it more profitable to go on with their class. Some of them may be able to go on successfully with a lower-ability group. Others may be able to master the work of the next grade if special instruction is given by the new teacher or by a coaching teacher.

The pupil's own welfare should be the basis for determining whether or not he should repeat. No pupil should be required to repeat a grade unless it is reasonably certain that he will benefit more by repeating than by taking advanced work. The acceptance of this principle implies that the school accepts as an ideal the elimination of indefinite standards for promotion. Definite information concerning the pupil's achievement and abilities must be available before non-promotion can be justified.

Among the many reasons commonly given for non-promotion, there are but two that can be justified, and careful analysis indicates that non-promotion for either of these reasons should rarely occur. Repeating a grade would seem to be justified when a pupil is unable to master the fundamentals of the succeeding grade. Even under these circumstances repeating would be justified only when the comparatively small amount of subject

matter required cannot be obtained from special instruction given by the new teacher or by a coaching teacher while the pupil carries at least the fundamental work of the following grade. Repeating would be justified also if promotion meant the losing of something highly valuable, which could not be secured in a higher grade. The subject matter lost by going on would need to be exceedingly important, however. It would need to be of sufficient importance to compensate the boy or girl for the loss that would result from repeating. Apart from the discouragement that might arise from repeating, it should be held in mind that, to many children, repeating a lower grade results in sacrificing the opportunity to experience one of the higher grades. Children who withdraw from school as soon as the law permits or economic pressure requires, leave school in many cases with no better than a fourth-grade or fifth-grade education, and in large numbers with no more than a sixth-grade or seventh-grade education.

A fifth-grade class. — With this background, let us examine in detail the records of the class in Illustration 3, facing page 33. No members of the class were failed. Some of these children were passed on against the wishes of their teacher of the previous semester. Should the new teacher demand their demotion, or was the principal right in insisting that all go on into the high-fifth grade?

If there are any pupils in this group who should be cared for upon lower levels, they will be pupils that are markedly low in achievement. From our earlier experience with the use of teachers' judgments unaided by tests, we may conclude that their use here would give us little satisfaction. We shall therefore proceed at once to an individual consideration of these pupils who are achieving on the lowest levels.

Table 17 gives information bearing upon pupils achieving on the average one half year or more below the standard level of the present grade.

TABLE 17

PUPILS WHOSE ACHIEVEMENT IS LESS BY A HALF YEAR OR MORE THAN THAT WHICH IS STANDARD FOR THEIR PRESENT GRADE

	NUMBER OF MONTHS BELOW STANDARD ACHIEVEMENT	AMOUNT OVERAGE CHRON- OLOGICALLY ¹ (MONTHS)
James	13 months below	16
Pearl	13 months below	0
Don	10 months below	0
Iris	8 months below	6
Jane	7 months below	8
Katherine	7 months below	10
Eugene	6 months below	0

¹ As determined from the scale on the profile chart. None of these pupils are underage chronologically

James is obviously the most difficult case. He is achieving on the average 13 months below the present standard. From Chart 20 we can see that James is approaching the standard of his grade in only two subjects, — computation in arithmetic and spelling. He is particularly weak in reading and in history and literature. The weakness in history and literature is doubtless closely connected with his weakness in reading. In spite of his half dozen years in school he has not yet attained fourth-grade standard in reading. His reading age is a year behind his mental age. Certainly in these half dozen years, had the usual methods of teaching reading promised much in the way of improving James's reading ability, the present result would have been different. We cannot improve the situation much by putting James back half a year. He would be almost as badly adjusted as to achievement. Then, too, the problem with James is not so much different from that which we faced with the overage pupils sent on to junior high school. It is a problem of doing something with him now that approaches the adequate. It will be no more difficult to do this with him on this level than on any other. In any case, if the school cannot make special provisions

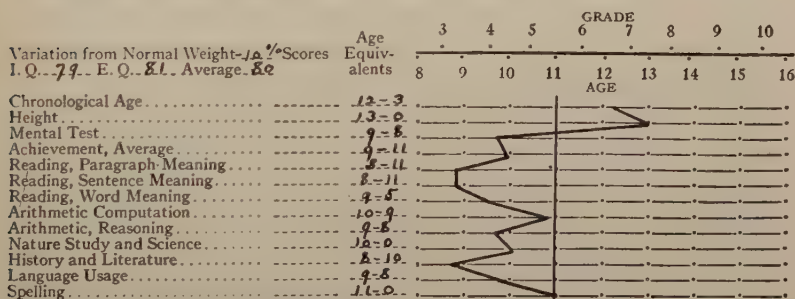
for the dull-normal pupils in the way of an adjusted curriculum, this pupil is going to demand a great deal of individual attention. In informational subjects, care will have to be taken to assign him reading that a fourth-grade pupil could master. This does not mean that subject matter should be of fourth-grade level. The simplest of the reasoning problems in arithmetic should be assigned him. Achievement on the lowest level of the group, if obtained with a sincere effort, should receive commendation. Individual assignments should be made within his powers, with particular attention to his likes and strong points, so that wherever it is possible he will not be in the position of fighting a losing battle.

Such treatment should be made a matter of record so that the future treatment of James can be planned with these facts in

CHART 20

A fifth-grade boy below standard in all subjects

Pupil *James* Grade *High 5* Type of Class *Slow*



The broken line represents James's record.

The vertical line shows the standard of the high-fifth grade.

Note: James's teacher did not report him as among either the best or the poorest five in any of the fifteen items rated. He is receiving no special attention from the class teacher at the present time. The physical training teacher reports that he lacks ability and she advises that it is necessary to give him special exercises. The special teacher of arts and crafts reports him to be nervous.

mind. James may be told of the opportunities that are awaiting him in the junior high school, so that perhaps for the first time in his experience he will take a definite interest in his immediate activities because they are preparing him to make the most of the opportunities to be offered him after another year.

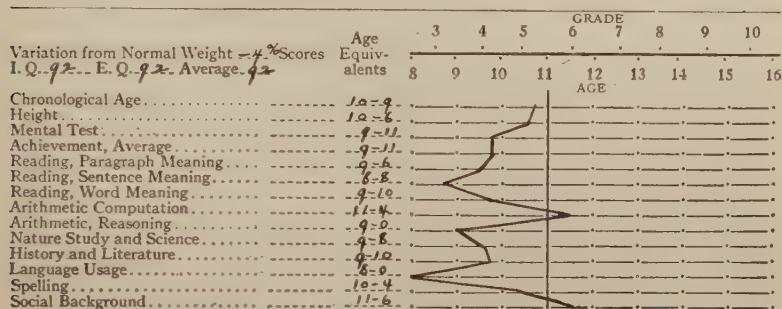
Pearl presents an entirely different problem. Her achievement on the average is as low as James's, but she is about normal in age. In ability she is considerably above James. She has passed normally from year to year, without doing outstanding work in any field. Probably her work in arithmetic computation, in which she is normal, has impressed her teachers unduly. The fact is that her teacher rated her particularly low in freehand drawing only. According to the tests, her achievement reaches or exceeds the level that could be expected from a pupil of her ability under average working conditions in arithmetic computation and spelling only.

To put her back with another class would be to fail to give her an opportunity to put forth greater effort than that to which she is accustomed. The school, blinded by her satisfactory work in the readily measured subjects, has made no such appeal. In all fairness to Pearl, this appeal should now be made. Furthermore, the only way in which she will be handicapped in the present grade is by her deficiency in reading ability. She can be improved in language usage as well upon this level as upon any other. Special vocabulary drill and individual attention to her mode of attack of reasoning problems in arithmetic will promise improvement in all the informational lines, and in reasoning in arithmetic. She will probably be able to build up her deficiencies over a period of a year if those particular deficiencies are pointed out to her. Freeing her for a time from work on the fundamental processes of arithmetic and possibly from spelling will give her additional time for correcting her deficiencies.

CHART 21

A girl whose achievement has been rated too low

Pupil *Pearl* Grade *High 5* Type of Class *Slow*



The broken line represents Pearl's record.

The vertical line shows the standard for the high-fifth grade.

Note: Pearl's teacher rated her among the poorest five in her class in freehand drawing. The teacher in charge of the school library reports that Pearl is overenergetic. The school records show that Pearl has never been required to repeat a grade.

Let us go for a moment into the specific weaknesses revealed by the tests. Table 18, page 170, gives items with the reaction of Pearl and of one of the three highest-scoring pupils remaining in the group. The pupil with whom Pearl is compared scores somewhat better on the test as a whole. But, as may readily be seen, the problem of improving Pearl's language usage is not a low-fifth-grade problem any more than it is a high-school problem. Pupils should not be required to repeat as a means for correcting such deficiencies. Such weaknesses may be overcome as readily in the higher grade as in the lower.

Demotion or non-promotion should not be used as a punishment, nor in any case as anything else than the most adequate treatment to give the pupil, his immediate and eventual welfare both considered. Had Pearl realized her weaknesses in these other lines and refused to coöperate in their correction, repeating

TABLE 18

ITEMS FROM THE STANFORD LANGUAGE TEST AND THE NATURE OF THE ANSWERS GIVEN BY PEARL AND BY ONE OF THE PUPILS WHOSE GENERAL ACHIEVEMENT WAS HIGHEST IN THE GROUP

ITEM	PEARL	OTHER PUPIL
I calculate to go soon expect	Wrong	Right
Yourself and your guests are invited You	Right	Right
The news are bad to-day is	Right	Wrong
I think you had ought to go ought	Wrong	Wrong
It is they who should be blamed them	Wrong	Right
He acted the part perfectly perfect	Right	Right
I have often ridden a horse rode	Wrong	Right
He has an appointment with the president a date	Right	Right
I have often rang the bell rung	Wrong	Wrong
Charity is when one gives to the poor means giving	Wrong	Wrong
Each man and woman was present were	Right	Wrong

the low-fifth grade would not be justified if it appeared possible to carry out the procedure suggested (on page 168).

Repeating should be used as an alternative last resort. In many cases, as in the cases of James and Pearl, an ounce of analyzing individual difficulties made by diagnostic tests now readily available, is worth a pound of repeating, even in getting immediate returns. The inadequate procedure of promoting children on condition, with no attempt at individual analysis, has proved so successful as compared with repeating, that it must always be considered as a safer alternative.

A primary class. — Our case studies of repeaters in Grade 5 point to the conclusion that requiring a pupil to repeat is used

very frequently as a substitute for the diagnosis of difficulties and the application of remedial measures. This conclusion is fortified by case studies in the primary grades.

Children are more frequently required to repeat the first grade, or are demoted from the second grade, because of difficulty with reading than for any other reason. If there is ever any justification for a pupil's repeating the first grade or a semester of that grade, it is when repeating the work of that grade will contribute more to the pupil's learning of reading than would individual treatment in the second grade. This will occur much less frequently than prevalent practice in repeating the first grade would seem to indicate. It is not at all uncommon to find first-grade teachers failing a third of their pupils. It is not uncommon even to find teachers beginning to sort out their candidates for repeating early in the term.

On a tour of inspection of the classification practices in a large city, attention was called to Miss Jones, a first-grade teacher. It was said that she had her class divided in an interesting manner. Upon inquiry it was found that her pupils were classified as "Red Birds" and "Blue Birds." In telling about her work this teacher kept referring to this work or that work as the product of her Blue Birds.

"Just what are the Red Birds?" she was asked.

"Oh," she said, "they are the ones who are going to fail."

What a contrast this was to what was expected! Although there was a considerable part of the term to run, the fate of fully half the youngsters had already been determined. They were given a picturesque name and then set to marking time until the beginning of another term.

This teacher thought that her Red Birds could not read well enough to justify any further attempt at instruction during the remainder of the term. She was enlightened, as compared with the teachers in another school system who claimed to be able to choose the future first-grade repeaters at the end of the second

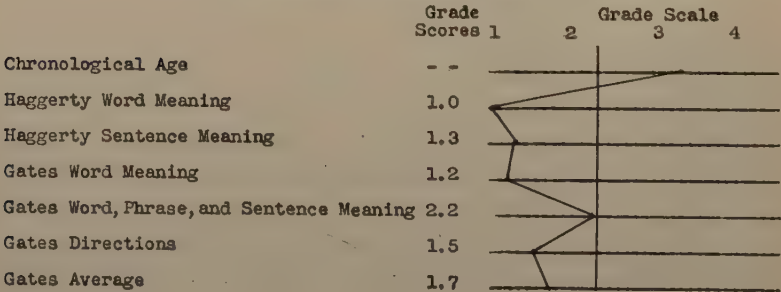
month of the school term. The index they used was number combinations which the pupils knew.

Let us examine a case in reading on which a teacher, without any knowledge of the pupil except her experience in the classroom, might base demotion. Erma was one of the poorest repeaters in a second grade of a rather large city, as shown by five reading scores: Haggerty word meaning, Haggerty sentence meaning, Gates word meaning, Gates word, phrase, and sentence meaning, and Gates directions. Erma's scores on these tests are shown in Chart 22. She does not attain standard for her grade in either of the Haggerty tests or in any of the Gates tests. She approaches standard in the Gates test of word, phrase, and sentence meaning. Although the Haggerty scores place her more than a year below standard, the Gates scores place her slightly more than a half year below standard.

Obviously there is no excuse for putting this child back if the school does not have semiannual promotions. Even in a semi-annual-promotion school, it is doubtful if the added gain from repeating would be comparable in obtaining results with the plan of giving this pupil special help in interpreting longer thought units.

CHART 22

The reading ability of a second-grade girl tested in the fourth month of the school year



Even though this may involve reading materials but little more difficult than those being used by the half grade below, such materials should be obtained from books other than those that are being used by lower grades. If this rule is to be followed, requiring this pupil to work with a lower-grade class will not greatly simplify the work of the teacher who has to deal with her.

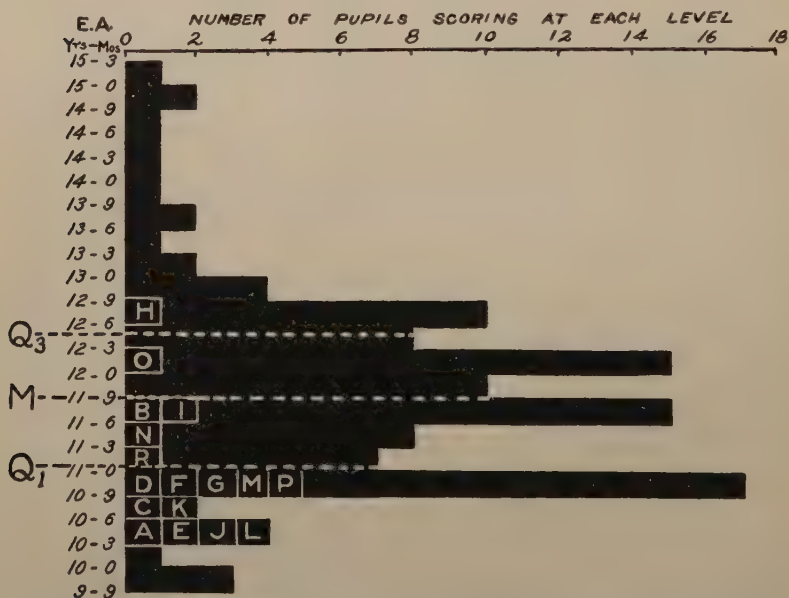
Examples of unreasonable non-promotion. — It is very difficult to find justification for causing a pupil to repeat a grade when all the facts about the pupil are known. When one really knows where a pupil stands, it is rare indeed that a better plan of procedure than repeating does not present itself. Where repeating is required on judgment of teachers alone, all investigations have shown not only numerous cases where other plans of procedure might have been used, but also cases of the most serious error in judging achievement and ability. Take for example the following analysis of non-promoted pupils in a fifth grade of a single school.

Chart 23 shows the scholarship of seventeen non-promoted pupils in comparison with their promoted classmates, as measured by the Stanford Achievement Test. The column at the left of the chart shows achievement in years and months at intervals of three months. The length of each bar represents the number of pupils achieving at a given educational age. Both promoted and non-promoted pupils are shown. Each square outlined in white represents a non-promoted pupil. For example, there are ten pupils who scored between 12-6 and 12-9. This is indicated by reference to the scale at the top. One of these pupils was not promoted, as indicated by the square outlined in white. The pupil not promoted is indicated for reference by the letter "H." Several pupils who were not promoted were better prepared educationally than those who were promoted. Six non-promoted pupils, or 35 per cent of the non-promoted pupils, were above the lowest quarter of the whole

group in achievement. While eleven of the non-promoted pupils were in the lowest quarter, there were also eighteen promoted pupils who were as low or lower in educational achievement. The four pupils who were lowest in achievement were among those promoted.

CHART 23

Achievement of seventeen non-promoted pupils compared with that of their promoted classmates



The letters "A" to "R" in the body of the chart represent the 17 pupils who were not promoted.

One fourth of the pupils in the entire class are above the line marked Q₃.

One fourth of the pupils in the entire class are below the line marked Q₁.

The line marked M halves the class.

The same general lack of relation between failure and achievement is maintained in the various subjects of the curriculum. The non-promoted pupils range in every subject above many

pupils who were considered educationally ready for the next grade.

Table 19 gives the causes of failure as reported by the teachers for each of these seventeen pupils. Pupil "G," who, according to the teacher, was failed because of specific weakness in geography and arithmetic, scored as high as or higher than thirty other pupils in geography and higher than twenty-three other pupils in arithmetic. Twenty of the pupils below Pupil "G" in geography were promoted and sixteen of the pupils lower in arithmetic were promoted.

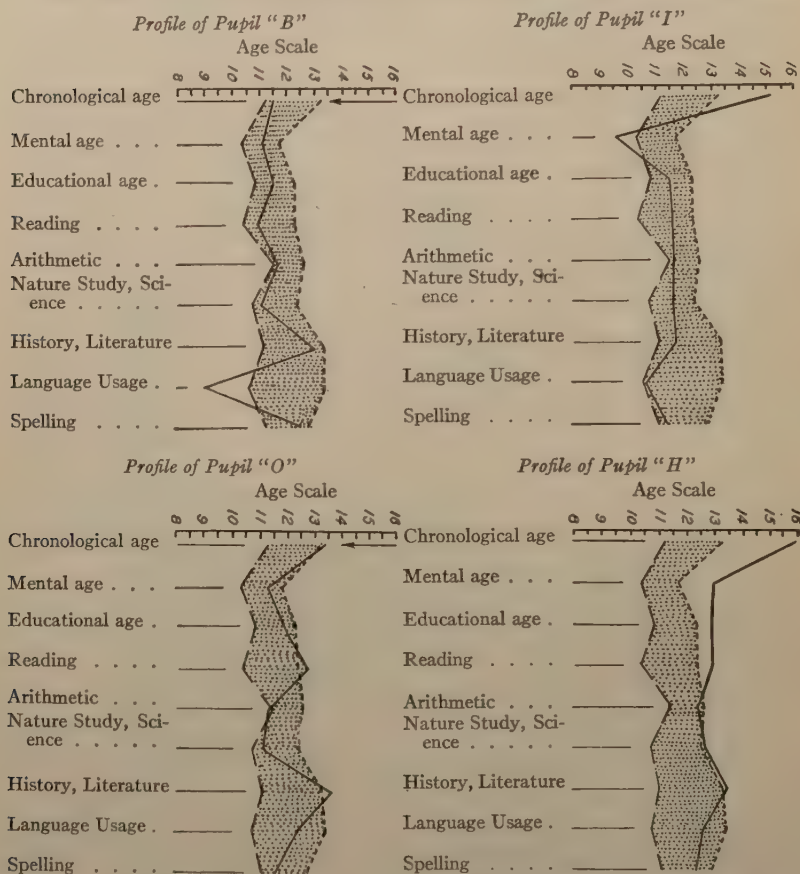
TABLE 19
TEACHERS' REASONS FOR FAILING TO PROMOTE SEVENTEEN PUPILS FROM
THE HIGH-FIFTH GRADE

PUPIL	CAUSES OF FAILURE GIVEN BY TEACHER	PUPILS WHOM TEACHERS HAD PREVIOUSLY DESIGNATED AS DISCIPLINE CASES ¹
A	Ill health	x
B	Weak in certain subjects	
C	Weak; lazy	x
D	Weak; lazy	
E	Weak; mentally deficient	
F	Weak; lazy	x
G	Weak in arithmetic and geography	
H	Would not study; said he had to work	x
I	Never studied; entered late	x
J	Should be in fourth grade; not capable	
K	Work poor; requiring English; foreign	
L	Work poor; requiring English; foreign	
M	Work of grade too hard	x
N	Non-attendance	x
O	Non-attendance; indifference	
P	Could not do the work	
R	Could not do the work	

¹ Pupils marked x were listed by their teachers two months earlier as pupils who were serious discipline cases.

A study of all the achievement-test scores of each of these non-promoted pupils strengthens the conclusion that non-

CHART 24

Achievement of non-promoted pupils in relation to middle half of their class¹

¹ The solid line represents the pupil's record. The shaded portion shows the record of the middle half of the class. One fourth of the class fall at the left of the shaded portion, and one fourth at the right.

promotion is often unrelated to achievement. Four of these case studies are offered as illustrations in Chart 24. Pupil "B" is of Spanish parentage; above the average height for his

age; 11 years, 6 months old at the time of the tests. Although he skipped the low-fourth grade, his school progress has been retarded with non-promotion in the low-first grade, high-first, high-third, and high-fifth. He has symptoms of eye trouble and chronic difficulty in breathing. The reason given for failing him for the second time in the high-fifth grade is that he was weak in certain subjects. His record shows that he is equal to or better than 44 per cent of his class in achievement. His profile in Chart 24 shows that he is definitely weak in language usage only. Pupil "B" stands five months below the median of the grade in chronological age, equal in mental age to the grade median, and two months below the grade median in educational age. This pupil should be promoted and given special training in language.

Pupil "I" is of Spanish parentage, of average height for his age, and 15 years and 1 month old at the time of the test. He repeated the high-first grade and the low-second grade and is now repeating the high-fifth grade for the third time. He is rated as a serious discipline problem and as one of the poorest workers in the class. The reason for his third non-promotion from the high-fifth grade is given as "late entrance" and "failure to study." His record shows that although he is mentally lower than most of his grade, he is, nevertheless, better than 44 per cent of his group educationally. His language-usage score is the only very low score in his profile in Chart 24. He is 3 years and 2 months above the grade median in chronological age, 1 year and 7 months below the grade median in mental age, and only 3 months below the grade median educationally. Promotion to a special class with a changed curriculum would meet the needs of this pupil better.

Pupil "O" is a girl of average height and weight for her age and 13 years and 5 months old at the time of the testing. She repeated the low-fourth grade. She has been absent eighteen days during the semester and is listed as one of the poorest

workers. Educationally she is better than 50 per cent of her grade. She was not promoted because of indifference and non-attendance. In chronological age she is 1 year and 6 months above the median, and she is 3 months above the median of the grade in educational achievement. Her lowest rating in any subject, as shown by her profile in Chart 24, is in nature study and science, where she is only 2 months below the median for the grade. Non-promotion might serve to punish this pupil, but it would not help her educationally.

Pupil "H" is a boy of Cuban parentage; below average height for his age; 15 years and 11 months old at the time of the tests. His progress has been normal with no non-promotions up to this time. He entered school at the age of ten. He has been absent sixteen days during the semester and is listed as one of the serious discipline cases. The reason given for his non-promotion to the low-sixth grade is that he would not study and that he had to work at home. Yet in his educational achievement as shown in Chart 24 he is higher than 75 per cent of the grade. In mental ability, he is surpassed by only six of the sixty-eight pupils in the group under discussion. He was not promoted because he did not study. What incentive was there for study? He was already surpassing more than 50 per cent of the pupils in the next higher grade, the low sixth. Moreover, his educational age, his mental age, and his chronological age were all higher than the median of the high-sixth grade, which is a full year ahead of his present grade in school.

Failure and Repeating in the Junior and Senior High Schools

The need of injecting some order into the chaotic condition existing in the failure situation in junior and senior high schools is indicated by every careful analysis that has been made on the subject. In the percentages of children failed, extreme differences exist not only among subjects, but also among the classes of the same term in the same subject. Note the variation in the

TABLE 20
PER CENT OF SUBJECT FAILURES IN THE CLASSICAL AND
ENGLISH HIGH SCHOOLS

SUBJECT	NUMBER OF PUPILS		PER CENT OF PUPILS FAILED	
	Classical	English	Classical	English
Geometry	552	274	19.0	18.9
Algebra	261	104	13.0	15.3
Advanced Mathematics	25	20	32.6	3.1
Botany	...	64	...	0.
Chemistry	73	21	4.0	14.2
Zoology	...	62	...	4.8
Physics	71	132	31.1	20.4
American History	212	446	11.0	15.0
Modern History	107	98	25.0	4.0
General History	...	78	...	17.9
English History	...	48	...	12.5
Ancient History	298	...	22.0	...
Social Problems	...	81	...	3.7
French	471	94	15.0	23.4
Spanish	272	236	21.0	8.4
German	79	10	8.8	10.0
Latin	370	34	14.0	20.5
English	872	1047	8.6	6.4
Art Appreciation	67	43	9.0	4.6
Applied Art	...	50	...	4.0
Art	...	108	...	4.6
Commercial Art	...	32	...	0.
Cooking	43	55	1.0	0.
Sewing	...	97	...	3.0
Foods	...	121	...	1.6
Clothing	...	251	...	1.9
Home Design	...	26	...	0.
Costume Design	...	54	...	0.
Electrical Drawing	...	13	...	0.
Printing	...	68	...	8.8
Carpentry	...	61	...	6.5
Electricity	...	33	...	9.0
Freehand Drawing	93	...	14.2	...
Pattern Making	...	34	...	14.7
Mechanical Drawing	96	101	3.1	11.8
Art and Architecture	...	21	...	0.
Machine-Shop Practice	...	137	...	15.3
Art Design	...	37	...	2.7
Architectural Drawing	...	16	...	0.
Machine Design	...	53	...	0.
Forge and Foundry	...	107	...	8.4
Arithmetic	...	99	...	1.0
Commercial Law	...	59	...	10.1
Writing	...	227	...	6.1
Business Organization	...	64	...	1.5
Filing	...	77	...	1.2
Commercial Geography	...	323	...	5.5
Physical Geography	45	...	12.0	...
Accounting	...	68	...	7.3
Shorthand	...	292	...	5.8
Bookkeeping	...	283	...	7.0
Typewriting	...	713	...	12.7
Biology	62	...	0.	...
General Science	206	...	32.0	...
Public Speaking	92	...	12.0	...

Lynn Survey, George D. Strayer, Director, Bureau of Publications, Teachers College, Columbia University. Table 44.

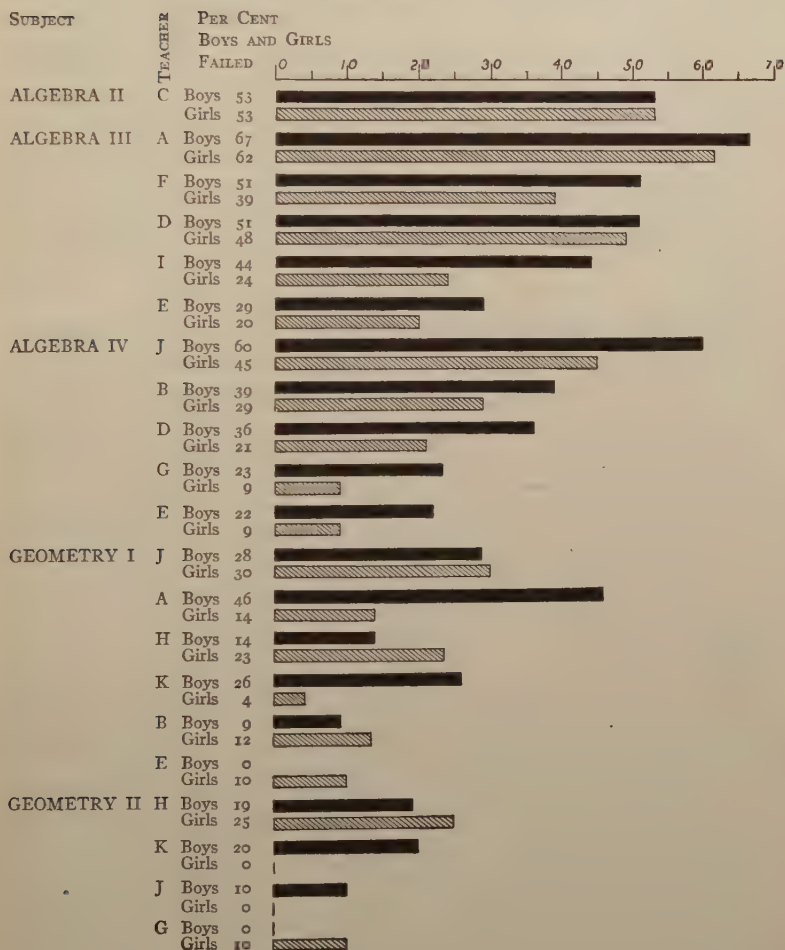
percentage of failure in certain subjects in two high schools in the same city, as shown in Table 20, page 179. The percentages of failure in the Classical High School vary from 0 in biology to 32.6 in advanced mathematics. In the English High School, the variation is from 0 in botany, commercial art, cooking, home design, costume design, electrical drawing, art and architecture, architectural drawing, and machine design, to 23.4 per cent in French.

While there is probably justification for marked differences in the percentage of failures among types of courses, there are obvious inconsistencies in this table which show that some teachers lack definite appreciation of the true function of failure. For example, the percentages of failures in general science, history, and art appreciation are surprisingly high.

Chart 25, page 181, shows the variation in percentages of failure allotted by the various teachers of mathematics in a high school in another city. Note that Teacher "A" refused credit to 67 per cent of the boys in his Algebra III classes. In contrast with this, Teacher "E" refused credit to 20 per cent of the girls in his Algebra III classes. In Geometry I, Teacher "A" refused credit to 46 per cent of the boys in his classes, while Teacher "E" refused credit to no boys. There were no such differences in the abilities of these classes. It is very probable that the difference was not entirely due to the quality of teaching. The difference was for the most part a difference in the attitude of the teachers toward the use of failure. Failures even in as high percentages as found for Teacher "E" cannot be justified with reasonably able teachers in any school that has proper regard for the planning of the work of students. Any teacher who stands on his rights to fail large numbers of pupils should seriously ask himself whether the work he is teaching has any real place in the education of the boys and girls allotted to his instruction. What he may be calling "high standards" may really be indications that he is attempting to teach a college

CHART 25

Failures in mathematics in a high school



course to a high-school class. When one sees the situation shown in Chart 25 recurring over and over in schools throughout the country, one cannot but become suspicious that the expression "high standards," carrying with it as it often does the attempt to belittle the attitude of those who are seriously attempting to make the schools fit the needs of boys and girls, is a more or less unconscious attempt to befog the situation. The issue is not between high and low standards. The issue is between high standards with inadequate courses, which result in failure of large percentages of children, and high standards with adequate courses and good teaching, which will result in little or no failure.

The standard percentage of failure should be *zero*, and every teacher should feel called upon to explain, in terms of the failure of the school in placing the individual, the failure of a pupil to do his best, or in terms of his own instruction the cause of the failure of any pupil. If it is the school's fault in placement, the course of the pupil should be altered. If it is the pupil's fault, he should become a case for careful clinical investigation. If it is the teacher's fault, he should take steps to improve his instruction, or to find work where his failures will be of less consequence to others.

What has been said concerning failure and repeating in the elementary grades, pages 164 ff., applies to the seventh and eighth grades in a traditional school. It applies likewise to a junior high school if promotion by grades rather than by subjects is practiced. Where subject promotion is used, other elements enter into the problem.

The teacher in departmentalized work in a junior or senior high school does not always need to consider the issue of repeating, inasmuch as repeating a course should not necessarily follow refusal to grant credit. Credit should be granted if the pupil has reasonably attained the purpose of the course. The following classification of courses will be found helpful in determining

whether credit should be granted and whether repeating should follow refusal to grant credit:

1. *Participation Courses*: Courses for which credit is granted for attendance and helpful participation, such as physical training and, perhaps, group civics. With respect to repeating, these may be divided into (1) those which would promise more to a repeater than some new course and (2) those that give a great deal of their worth the first time to even the poorest participants.

2. *Attainment Courses*: Courses for which credit is granted to the pupil when he attains standards defining skills, knowledge, or attitudes valuable in themselves. Repeating any subject in this group should be permitted only when mastery of such a subject is required for college entrance, or where the repeating promises greater return than some new subject to be taken in place of it.

3. *Preparatory Courses*: Courses for which credit is granted to the pupil when he attains the skill necessary to carry the next unit of work successfully. Repeating should be required of failures if the necessary skill or knowledge is not otherwise readily obtainable. In some cases, as in first-semester algebra, no repeating should be required for failing the term's work, but credit should be granted when the pupil successfully completes the course that follows, just as is the case in annual-promotion schools.

4. *Attainment and Preparatory Courses*: Combination of (2) and (3), where mastery is required for the sake of the term's work itself, as well as for use in the next course. To determine the desirability of failing, the relative importance of each value must be weighed as in the case of grade promotions.

One of the main reasons for great variation in failures among teachers is the classification of all high-school subjects under the *attainment group*. Even where this error is not made, teachers too frequently make the mistake of applying the same standard of skills, knowledge, or attitudes to all pupils. The greatest

service of the school to individuals will require that the standards for granting credit vary with the type of course the pupil is pursuing. For example, if a course is in the field of the pupil's major interest, or if it is required as preparatory to entrance to a higher institution, the teacher may well hold higher standards than if the course is taken simply as an informational course. In other words, the same course may fall under the *participation group* for some pupils and under the *attainment group* for others. A course in history may fall under the *participation group* for a pupil pursuing a vocational curriculum or under the *attainment group* for a pupil taking a college-preparatory curriculum. Some schools have recognized this difference by requiring higher marks for credit in the major field than in the fields of minor interest.

It is of interest to point out here that the minimum standard for credit should not vary with the ability of the pupil. Adjustments to low ability should have been cared for by the planning of the pupil's course. If the pupil has consciously chosen a course which is beyond his mentality, it is entirely in keeping with the principles governing the use of retardation that he spend a longer than normal time in mastering that course. If the planning of a pupil's work demands that a purpose different from the usual one be served by a course, the standard for granting credit will be different. Whether it is lower or higher in such a case is of no practical interest.

High-school teachers have a much more difficult task in coming to a real understanding of when they should grant credit. They must analyze their courses for the purpose of classifying them. In subjects falling in the *attainment group* they must learn to measure results not in terms of how boys and girls do the day-to-day exercises, which far too often prove entirely useless in furthering the varying purpose of the course, but in terms of frequent tests and ratings that cover the breadth of the purpose of the course. When ratings are obtained for a class, it may be found that pupils standing low on the scale may be

granted credit, while pupils higher on the scale are refused it, because for them the course had a different purpose. On the other hand, in subjects falling in the *participation group*, the effort put forward in doing the daily tasks assigned must be an important consideration for determining credit. Repeating should not be indulged in unless there is pretty good evidence that it will be more profitable than other courses that might be chosen.

In subjects falling in the *preparatory group* the trial-promotion plan found useful in the elementary grades is the most useful device available. What is really needed is the knowledge of what is necessary from a given term's work for success in the work of a succeeding term. To-day such decisions are mere guesswork. For example, a pupil may be able to do very little in first-semester algebra, and yet, if given the opportunity, do successful work in the second semester of the course. One large school having semiannual promotions eliminated the repeating of first-semester algebra. This step came about through an experiment carried out without the knowledge of the teachers. Pupils who had failed the first semester were allowed to go on with their classmates. They were carefully distributed so that no teacher received pupils to whom she had refused credit. These pupils did almost as well as the pupils regularly promoted. Near the end of the term the results were reported in a departmental meeting just after a discussion that ended in the adoption of a proposal to apply more rigid standards at the end of the first semester of algebra. Upon presentation of the results of the experiment, the proposal to apply more rigid standards was dropped and an agreement was reached to allow all children to go on into the second semester of the work. This plan, supplemented by an extra period for coaching, proved successful.

This, of course, did not establish the case even for first-semester algebra, of the traditional type. It can be taken only as a suggestion for experimentation in other subjects of the *preparatory group*.

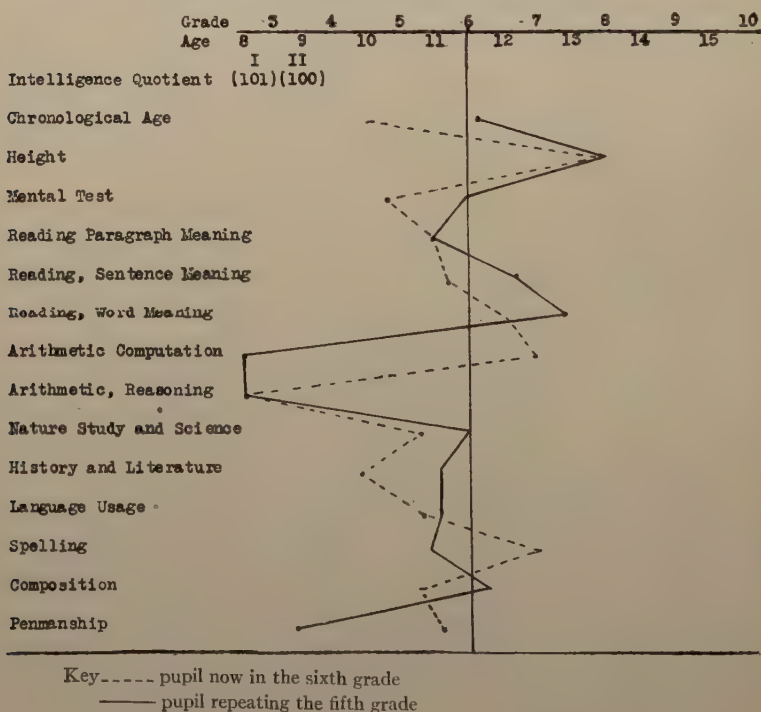
PROBLEM 12

WHO SHOULD BE REQUIRED TO REPEAT?

In determining whether or not a pupil should repeat, there are various factors that must be considered.

All but one of the eight pupils whose records are given on pages 186-189 are pupils who for one reason or another have been required to repeat a grade. The tests of the seven repeaters were given a short time after the beginning of the term which these pupils were repeating. They show the facts of the case approximately as it was when the decision to require repeating was made without any available test data.

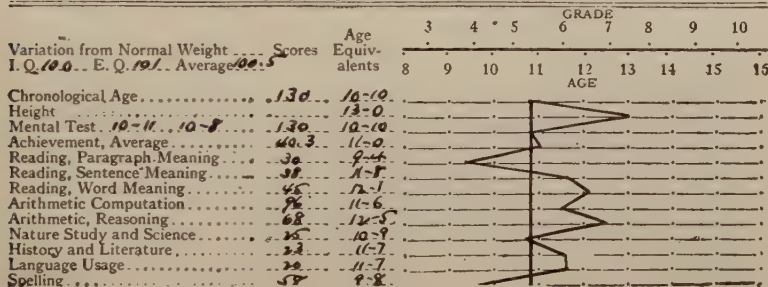
1. September Test Record of a Fifth-Grade Repeater, and that of a Sixth-Grade Pupil promoted from the Fifth



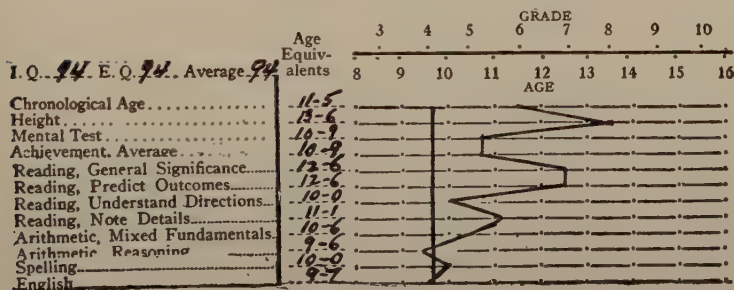
2. A Fifth-Grade Repeater

Entrance grade in this school system.....5..... Entrance grade in this school.....5.....
 Grades skipped.....0..... Grades repeated.....5..... Half years spent in kindergarten.....
 Does pupil expect to go to high school?.....Yes..... College?.....(Business).....Yes.....
 What does he want to do when he finishes school?.....Business man.....
 Does he take music lessons outside of school?.....Yes..... Other lessons, if any, outside of school?.....Hebrew.....
 Member of the following school teams or other organizations:.....
 Outside organizations:.....
 What musical instruments?.....
 What magazine does he read most?.....True, Easter..... How is out-of-school time spent?.....Helping father and playing.....
 Is there a room in the home where he can study by himself?.....Yes..... What kind of music does he like best?.....Klaxon..... Has he a card for the public library?.....No..... Times each week spent at the movies?.....None..... What language is spoken in the home?.....Hebrew..... How many books in the home?.....5.....
 Specific Weaknesses.....
 Physical Defects.....

Enrollment in this class.....34..... Type of class.....
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability..... 5. Leadership..... 9. Freehand Drawing..... 13. Spelling.....
 2. Mechanical Ability..... 6. Reading..... 10. Arithmetic..... 14. Music.....
 3. Attitude toward Work..... 7. Nature Study & Science..... 11. History..... 15. Shop Work.....
 4. Health..... 8. Language Usage..... 12. Literature.....



3. A Repeater in Low-Fourth Grade



His present teacher did not report him as either particularly poor or particularly good in any of the fifteen items on which ratings were obtained.

4.5. Two Fifth-Grade Repeaters from the Same School

Chronological Age

Level of Mental Ability

Level of Educational Achievement

Reading — Paragraph Meaning

Reading — Sentence Meaning

Reading — Word Meaning

Arithmetic Computation — Addition

Arithmetic Computation — Subtraction

Arithmetic Computation — Multiplication

Arithmetic Computation — Division

Arithmetic — Reasoning

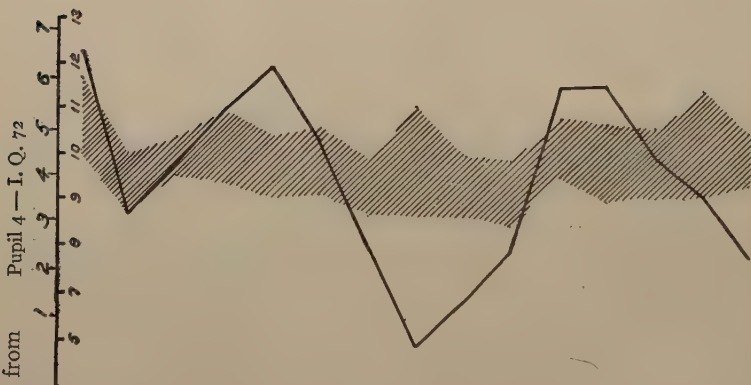
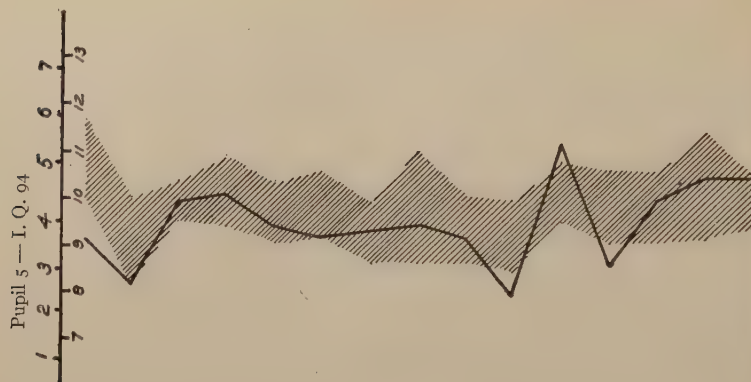
Nature Study

History and Literature

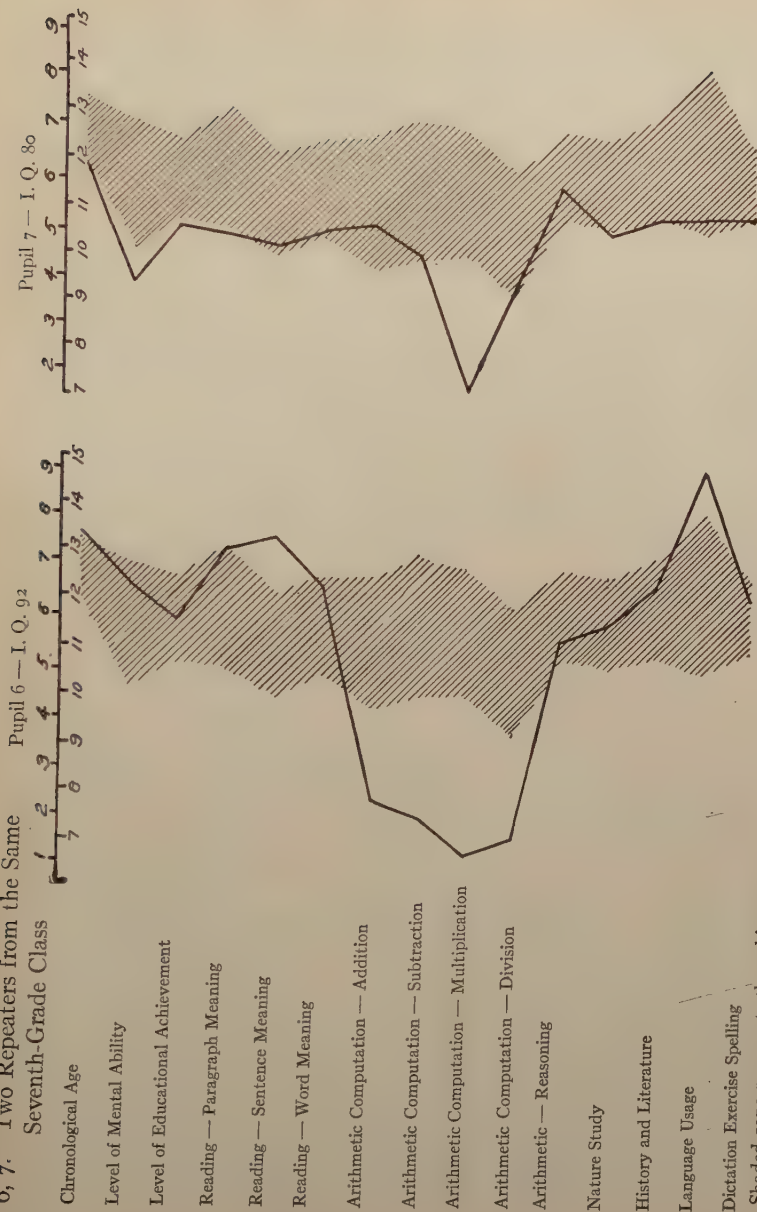
Language Usage

Dictation Exercise Spelling

Shaded zone represents the achievement of the middle 50 per cent of the class of which the pupil was a member before he had to repeat.



6, 7. Two Repeaters from the Same Seventh-Grade Class



Shaded zone represents the achievement of the middle 50 per cent of the class of which the pupil was a member before he had to repeat.

Assignment: 1. Apply the principle that a pupil should not be required to repeat unless it contributes to his welfare, to each of the seven cases on pages 186-189.

2. In any case that you do not believe should have been a case for repeating, give the probable reason that resulted in the non-promotion.

PROBLEM 13

NON-PROMOTION FOR FAILURE

What type of failure justifies non-promotion?

Studies have shown that pupils are required to repeat grades three and above most frequently because of failure in arithmetic. To discover whether failure in arithmetic in the first half of the third grade justified repeating, a group of teachers analyzed their course of study with the purpose in mind of discovering the essentials. The following is an outline of their report, the starred items being those which they considered essentials:

I. Review

- *A. Addition — By adding columns up and down
- *B. Subtraction — Checking by adding the remainder to the subtrahend
- *C. Multiplication — Checking by repetition or by reversal process
- *D. Division — Checking by repetition or by multiplying

II. Reading and Writing Numbers

- *A. Drill on place numbers
- B. Estimate large numbers, as of people at games, churches, etc.
- C. Use daily statistics from newspapers, books, etc.

III. Roman Notation

- *A. I to C
- B. C to M not essential

*IV. Addition Problems

*V. Subtraction Problems

*VI. Multiplication

- A. By one, two, or three numbers
- B. Multipliers with zeros
- C. Problems

VII. Division

- *A. By one digit and numbers such as 10, etc.
- *B. Long division stressed — two-place division
- C. Exact fractional parts of numbers
- *D. Division in dollars and cents

VIII. Denominate Numbers

- A. Linear
- B. Liquid
- C. Time

This group of teachers drew the following conclusion: In the opinion of the committee no child in the third grade (first half) may be kept back on account of failure in arithmetic, as all of the essentials marked above which are necessary for continuing the work in the succeeding grade may be acquired by special coaching.

Assignment: 1. Was the conclusion of the committee justified?

2. Make a similar analysis of any other subject-matter failure which you believe demands non-promotion.

PROBLEM 14

RESPONSIBILITY FOR FAILURE

Are the commonly reported causes for failure the real causes?

The teachers in the school system of a large city were asked to report what they believed to be the causes for the failure of those children they reported for non-promotion. The tabulated results from the elementary and junior-high-school teachers were as follows:

Mental Incapacity	20.6%
Poor Attendance	9.6
Late Entrance	1.8
Lack of Interest and Effort	26.3
Poor Health	8.3
Immaturity	11.8
Lack of English	2.8
Unwise Previous Promotion	6.2
Change of School	6.8
Physical Incapacity	.8
Poor Home Conditions	2.3
Other Causes	2.7

Assignment: 1. Assuming that the teachers' diagnoses of the causes were correct, which of these failures resulted from the failure to have a proper course of study?

2. The teachers' judgments as to failure were not assisted by means of standard tests. Which of the judgments would you accept with the least assurance as to their accuracy? Why?

3. It is reasonable to suspect that part of the failure is due to inadequate teaching. Which of the reported causes is most nearly related to this cause?

4. What is the total percentage that is beyond the control of the pupil? Who is responsible for these so-called failures?

PROBLEM 15

REDUCING NON-PROMOTION

In some school systems attempts are being made to eliminate repeating as a device for correcting failure. Such a step must be accompanied by the provision of substitute devices.

After a consideration of this problem in a series of meetings, a group of teachers were asked to present the objections they had to the elimination of repeating. The following objections were given:

1. Pupil does not try because he knows he will pass anyway. Threat of failure stimulates effort.

2. The situation will become progressively worse if the pupil is allowed to pass on and on.

3. The individual instruction necessary leads to too much cost.

4. How handle the drifters?

5. Teach a pupil to take consequences. He will have to do it anyway.

6. Teachers not properly trained to differentiate instruction.

7. Are any institutions training teachers for this type of teaching?

8. How teach the boy not doing his best?

9. It means undue attention to one type of pupil.

10. Lack of adequate instruction material.

Assignment: 1. Which of these objections are not valid?

2. What steps would be necessary to allow for the difficulty indicated by each objection you consider valid?

3. What difficulties with which you are familiar, either from your own experience or your reading, are not listed here? What steps would be necessary to remove these difficulties?

PROBLEM 16

FAILURE AND REPEATING IN HIGH-SCHOOL COURSES

The problem of failing and repeating in grades seven to twelve (junior and senior high school) varies with the subject and the term of the subject. Every teacher in these grades should have a clear conception of the conditions for granting credit and the considerations that enter into the decision that repeating in case of failure is or is not necessary.

Assignment: 1. Using the classification given on page 183 of this chapter, classify each term of the five subjects in which you are most interested. The list of subjects given in Problem 6 in Chapter III, pages 105-109, will be suggestive.

2. Choosing the subject in which you are most interested, specify the conditions under which repeating would promise more to a failing pupil than work in a new subject.

3. Specify a case where failure according to achievement-test standards would not justify the refusal of credit toward graduation.

4. If your subject is one in which the work of one term is usually considered necessary to the successful carrying of the work of the next term, make an analysis of a unit of the term's work similar to that given in Problem 13.

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CHAPTER VI

PROBLEMS IN CLASS INSTRUCTION

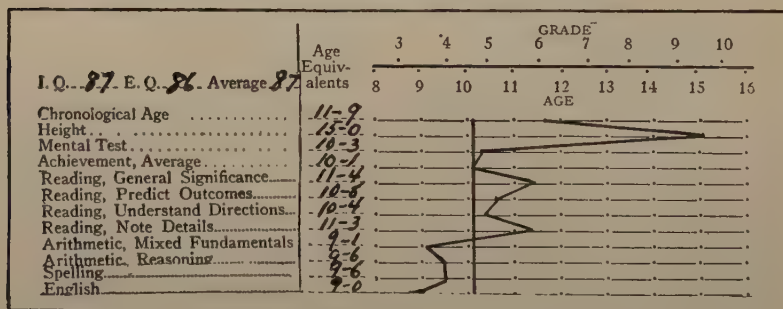
THE preceding chapters have dealt largely with the problems of placement of pupils within the organization and their rate of progress through school. Points that demand the constant attention of the teacher as the adviser and guide of pupils in their relation to the school, have been stressed. Certain aspects of these considerations, however, demand attention from the teacher in the day-to-day management of his class. They are problems that demand attention in the day-to-day planning of instruction. Chief among these problems are: (1) coaching failing pupils, (2) enriching the programs of bright pupils who are not given a special promotion, (3) caring for the make-up work demanded for pupils given special promotions, and (4) making up deficiencies in previous training. It is the purpose of this chapter to deal with these and other instructional problems that arise from the individual needs of boys and girls.

Whatever may be the need of reclassifying certain individual pupils who have been assigned to the care of any given teacher, it is desirable for each teacher to become acquainted with the demands which the individual needs of these pupils place upon him. It is rare, indeed, that a teacher can afford to assume that he can develop a plan, entirely out of his training and experience, for handling a group of children without consideration of the individuals who are to be subjects of the instruction. Each teacher has a right to expect that in the organization of the school, the needs of individual pupils have been considered, and that the results of the analysis of each pupil's records will be made available to him.

In many cases, however, teachers will find that such analyses have not been made. The temptation in such cases is to set up a course of procedure not based upon the needs of individual members of the class and to make such adjustments from time to time as are found to be needed. As every teacher knows, this method fails to reveal individual needs even after months of contact between teachers and pupils. A pupil's achievement can vary to a marked extent in his school subjects and still not penetrate the consciousness of the teacher as a special problem. Chart 26 shows the record of a high-fourth-grade boy on tests given during the sixth week of the school term. In spite of the fact that he varies more than two years in his achievement and is markedly overage and oversize for his grade, his teacher did not report him among those pupils who presented one type of problem or another. Other cases have been presented in earlier chapters showing the failure of teachers properly to evaluate achievement or ability.

CHART 26

A fourth-grade pupil whose marked variations from his class have failed to attract the attention of his teacher



Broken line shows this pupil's record.

Vertical line represents the grade standard.

The extent of the failure of teachers to discover individual needs by observation, is indicated by a study made in the school

system in which the pupil shown in Chart 26 is enrolled. The teachers of 1855 elementary pupils were asked to report various types of problems which they recognized in their pupils. In the definition of problems given them they were asked to report not only problems arising from deficiencies, but also problems arising from superiority. Table 21 gives a detailed report. Only 415, or less than 25 per cent, of these pupils were reported as presenting individual problems. A careful analysis of proper data on these pupils would have revealed that nearer 75 per

TABLE 21

NUMBERS AND TYPES OF MARKED INDIVIDUAL DIFFICULTIES NEEDING ADJUSTMENT REPORTED DURING THE SIXTH WEEK OF INSTRUCTION IN THREE ELEMENTARY SCHOOLS BY TEACHERS WHO NOTED THEM IN GROUPS THEY WERE INSTRUCTING

—	TYPE OF PROBLEM	TOTAL NEEDED ADJUSTMENTS
1. Marked Deficiency in:		
	Arithmetic	97
	Spelling	62
	Reading	108
	Language	48
	Writing	54
2. Marked Superiority in:		
	Arithmetic, Spelling, Reading, Language or Writing	15
3. Failure in General.		174
4. Failure of Bright Pupils to Work up to Capacity		19
5. Pupil Would Do Better in Another Grade		13
6. Foreign-Language Handicap		11
7. Bad Study Habits		60
8. Social Maladjustments.		226
9. Physical Defects:		
	Poor Vision	26
	Defective Hearing	6
	Malnutrition	23
	Other Defects	57
Total Adjustments Necessary		999
Total Number of Pupils in Whom Marked Individual Difficulties Were Noted		415
Total Enrollment.		1855
Percentage of Pupils in School in Whom Marked Individual Difficulties Were Noted		22

cent of these children should have been reported. This conclusion is reached by a careful analysis of fifth-grade pupils made in a recent study.¹ This analysis showed that even where pupils were grouped into ability sections, 35 per cent needed activities in addition to, or in place of, the activities in the program of their section, and 41 per cent needed provision for coaching in particular subjects.

The report of the problem cases shown in Table 21 was obtained in the sixth week of the school term. It is of interest not only that many problem cases were overlooked, but also that many of the problems reported were of such a general nature that they did not indicate a satisfactory diagnosis. For example, as will be noted from Table 21, 17 per cent of the problems are defined as *Failure in General*. Upon further analysis such difficulties almost invariably prove to be specific rather than general.

Every such study indicates that the planning of instruction must be done in terms of objective measurement of achievement and abilities. If the needs of pupils are not carefully determined before the school is organized for the new term, the task must be faced by the individual teacher in planning his work for the term.

Instructional Adjustments in the Elementary Grades

Needs of a fifth-grade class. — Table 22, on pages 200-201, gives the results of the analysis of records similar to Chart 1, page 46, of all the pupils shown in Illustration 3 (facing page 33) except those who, according to the analyses of the earlier chapters, should be in another grade. To these 22 pupils are added two specially promoted from a lower grade, Earl and Fred. Earl was recommended for a special promotion as a correction to overageness. His case is very similar to that of George, shown

¹ *Port Arthur Survey*, Bureau of Publications, Teachers College, Columbia University, New York, 1926.

in Chart 5, page 66. Fred was recommended for special promotion as an adjustment to exceptional ability. His case is similar to that of Frank, shown in Chart 14, page 136. There are more than two pupils who would be specially promoted to this class on the first reorganization of the school to correct misplacement. It will be remembered that for one reason or another there were 11 pupils in Illustration 3 who would be sent on to the next grade. A school, however, that is caring for these needs as they arise will not have such an accumulation of cases for special promotion as was found in this instance. Under normal conditions — that is, after the first year of readjustment — a teacher will seldom have more than two such pupils. For this reason, only two cases of this kind are reported in Table 22.

Opposite the name of each pupil in this table there are numbers and letters that show, through reference to the key, the adjustments that the analysis of each pupil's records indicated. The I. Q., E. Q., and educational age of each pupil are also given. For reference to the individual record, the chart in which it appears is indicated if that chart is given anywhere in this book. For example, the pupil Bert should have extra drill in language usage, as indicated by the symbol "o." In arithmetic computation he should omit all but the new aspects, as indicated by the symbol "6." He should receive enrichment in literature, as indicated by the symbol "8." The numeral "7" in the column headed *Chart Showing Record* shows that Bert's record is shown in Chart 7.

It will be noted that there is not a pupil who in one way or another does not need individual attention. This bears out in an interesting manner the statement made earlier in this chapter concerning the amount of individual adjustment needed. It suggests that a teacher who does not see in each of his pupils some needs not cared for by a common-school program, fails in his insight into the needs of those for whom he is responsible.

TABLE 22

A SUMMARY OF INDIVIDUAL NEEDS OF TWENTY-FOUR FIFTH-GRADE PUPILS AS DETERMINED FROM AN ANALYSIS OF TESTS AND OTHER PERTINENT INFORMATION

	CHART SHOWING RECORD	I. Q.	E. Q.	E. A. Yrs. Mos.	ARITHMETIC		READ- ING ABILITY
					Compu- tation	Reason- ing	
Earl	—	110	112	12 — 0	7 (2)	(8) (2) 0	
Fred	—	150	129	12 — 10	6 (2)	6 (2)	6
James	20, p. 167	79	81	9 — 11	9	9	
Pearl	21, p. 169	92	92	9 — 11		0	
Bert	7, p. 69	106	103	11 — 5	6		
Grace	—	94	100	11 — 2	7		
Annabelle . .	27, p. 203	109	102	11 — 3	7		
Jane	28, p. 205	91	90	10 — 5	9	0 9	
Mary	29, p. 207	94	98	10 — 9	6		
Rose	—	104	110	11 — 7	6		
Martha . . .	30, p. 209	111	96	10 — 9	7	7	
Evelyn . . .	—	102	110	11 — 4			
Minnie . . .	31, p. 211	134	109	11 — 3			
Geraldine . .	—	97	96	11 — 0	9		
Doris	—	95	97	10 — 11	9		
Iris	—	82	89	10 — 2		9	9
Katherine . .	—	79	80	10 — 5	9	9	9
Irene	—	94	108	11 — 2	6	6	
Leon	32, p. 213	105	105	11 — 3	0	8	
Forrest . . .	33, p. 214	99	110	11 — 5	7		
Harold . . .	34, p. 216	103	109	11 — 7	7		
Don	—	86	93	10 — 1	9	9	9
Eugene . . .	—	85	96	9 — 4	9	9	9
Charles . . .	—	91	101	10 — 9			0

KEY

Note: When symbol is encircled by parenthesis, reference is to subject of the preceding grade.

1 — Subjects to be omitted this term.

2 — Minimum of assignment on novel aspects of work omitted or not mastered in a lower grade. In case of pupils skipping the 5B grade: 5B Arithmetic, Geography, History and Literature, Reading, Language, and Spelling need not be so dealt with.

3 — Detailed reading instructions on easier materials.

4 — Detailed reading instructions on normal materials.

5 — Detailed reading instructions on more difficult materials.

6 — Subjects in which all but new principles or methods are to be omitted and only minimum assignments given on new aspects.

TABLE 22 — *Continued*

A SUMMARY OF INDIVIDUAL NEEDS OF TWENTY-FOUR FIFTH-GRADE PUPILS AS DETERMINED FROM AN ANALYSIS OF TESTS AND OTHER PERTINENT INFORMATION

SPELL- ING	LAN- GUAGE USAGE	HIS- TORY	GEOG- RAPHY	LITERA- TURE	INDUS- TRIAL ARTS	MUSIC	DRAW- ING	OTHER WORK OR AT- TENTION	
I	6	(2)	(2)	(2)					Earl
I	7	(8) (2)	(8) (2)	(8) (2)			(8)	i	Fred
	9	9	9	9					James
o	o								Pearl
	o			8					Bert
o		o		o					Grace
7	1	8	8	8				i	Annabelle
o	o	9	9	9				f i	Jane
	o			g					Mary
		o h		o					Rose
o	o						8	a b c e	Martha
o	6			g				b	Evelyn
	o	8	8	g 8		8		a c e i	Minnie
	o								Geraldine
	o	o 4	4	o 4				j	Doris
o o	o 9	9	9	9	9	9	9	k i	Iris
9	o 9	9	9	9	9	9	9	k i	Katherine
	o			g				e	Irene
	6	8 6	8 6	8 6				d	Leon
	o			8					Forrest
o	7		8	8		8		d	Harold
o 9	9	9	9	9	9	9	8	i	Don
o 9	9	9	9	9	9	9	9	i	Eugene
								f	Charles

7 — Subjects in which minimum assignments are given and minimum time for study considered in making individual programs. Standard of the average pupil to be met.

8 — Subjects in which more applications are made — of a different nature from the normal or new materials brought in, or different methods of attack used for the purpose of enrichment.

9 — Simple assignments and lower standards (in the sense of extent — not mastery).

o — Extra drill.

a. Add instrumental music.

b. Add practice in instrumental music.

c. Training in social information.

d. Training in association with others.

e. Analyze work habits.

f. Develop interest in reading.

g. Guide free reading.

h. Guide free reading into history.

i. Give attention to health.

j. Give evidence of personal interest.

k. Give intelligence test.

The adjustments entered for Bert, James, and Pearl are taken from the discussion in earlier chapters of Charts 7, 20, and 21. Of the nineteen others whose needs are shown in Table 22 there follows the analysis of eight pupils taken as representative of the various problems involved — Annabelle, Jane, Mary, Martha, Minnie, Leon, Forrest, and Harold.

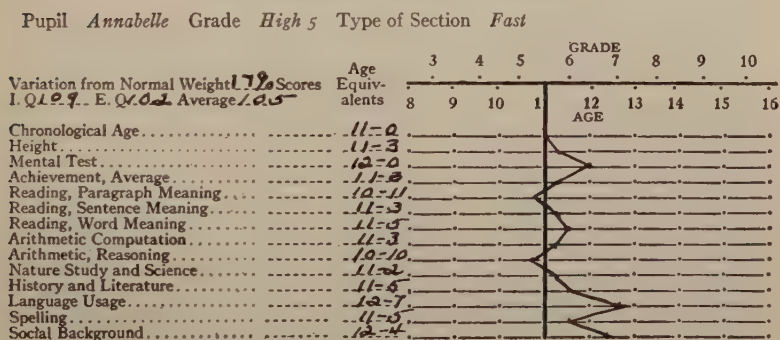
It will be noted that on the profile cards each pupil's record is compared with the standard for the grade (the vertical line). It is generally preferable to compare the individual with the average achievement of the class with which he is going to work. The profile card would then carry another broken line similar to the pupil's record line, the new broken line showing the achievement of the class. The comparison of the class average with the standard for the grade would show where adjustments in the instruction of the class as a whole are needed. The variation of the individual pupil from the class average would show what additional adjustments are necessary.

Annabelle, whose test records are shown in Chart 27, is a very nervous, frail, and delicate girl. She comes from a good, comfortable home. She has well-educated parents who do everything they can for her. She is timid, meek, and somewhat inattentive. Annabelle was given a mark of B+ by her last-semester teacher. She is of normal age. In her past school history she repeated the first semester of her first grade. She has somewhat better than average intelligence. Her teacher rated her as among the highest five of her section in ability, language usage, freehand drawing, arithmetic, and spelling. Her average score on the achievement test placed her at a point slightly above normal for her grade. Her achievement is unusually uniform. The only marked variation is in the case of language usage, in which she is well up to seventh-grade standard. The fact that she is markedly underweight indicates need of attention to her diet. Inasmuch as she is doing no extra work such as music lessons at home, there is an

opportunity for her to carry a more enriched educational program than she has been carrying in the past. This may be brought about by giving her special assignments in the content subjects, or through sending her to the library to carry out special assignments that will develop her somewhat retarded reading ability. The time spent by the class in language usage may well be spent on such activities, so that in one or more subjects even greater enrichment may be expected for Annabelle than for other children of her mental ability who are especially developed in some drill subject. If her health conditions do not improve, the school may well consider expecting her to do all her school preparations in school time, and through the coöperation of the home bring about outdoor activities to the fullest possible extent.

CHART 27

The educational record of Annabelle



The broken line represents Annabelle's record.

The vertical line shows the standard for the high-fifth grade.

Note: Annabelle's teacher rated her as among the highest five of her section in general ability, language usage, freehand drawing, arithmetic, and spelling. Annabelle hopes to study designing sometime during her school career.

The treatment needed by Annabelle may be summarized as follows:

1. Give attention to health.
2. Discontinue drill on language usage.
3. Give particular attention to improving her interpretative reading by making assignments that will demand more training.
4. Give her a more extended opportunity through special assignments or some other device, unless her health demands the limitation of school experience for the purpose of extending outdoor activities.

Jane comes from a home of moderate circumstances. Her teacher claims that she does only fair work, is rather inattentive, and does not seem very much interested. She is eight months overage for her grade and has an average test score equivalent to standard for a whole grade below. In spite of this low achievement and the fact that she was working with a fast group, her last-semester teacher rated her as average in achievement, giving her B as a term mark.

Chart 28 shows her educational record in detail. Results on both the mental and achievement tests indicate that she is at the lower margin of the normal group. She might readily be classed as either normal or dull-normal. She is almost up to standard in arithmetic computation. She is especially low in reasoning in arithmetic. She gave "Eleven cents" as the answer to the following question: "How many cents will eight oranges cost at three cents each?"

Although she stands fairly well in word recognition she is not at all skillful in interpreting paragraphs. In the latter respect her ability corresponds to that of a fourth-grade pupil. Her reading ability could be readily improved by giving her special consideration when assignments are made. Assignments that will require her to read carefully for the answers to specific questions will break down her habit of jumping to conclusions without verifying them. Improvement of this ability will doubtless improve her work in reasoning in arithmetic. At present she fails to master the meaning of a problem

before she applies her computation. The problem given in the preceding paragraph is an instance of this. There were many such examples in her test papers. Note the following completion of a sentence in the paragraph-reading test:

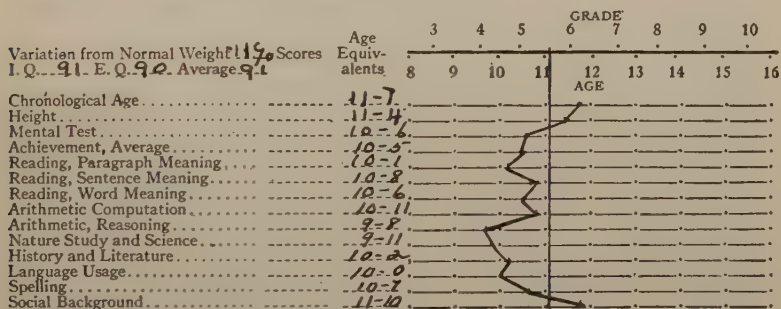
Once a hen was so foolish as to go to a fox and ask him to look after her chicks while she went to the barnyard to find some worms for her chicks. The fox was of course quite willing. The hen was gone a long time. When she finally returned, she found that the fox had eaten all her chicks. Since then no she has employed a hen as a nurse.

Her completion of the test shows evidence of some understanding of the paragraph. What could be a better solution of the difficulty than employing a hen as a nurse thereafter? Unhappily, however, the wording of the sentence to be completed makes this an impossible answer. Jane obviously did not notice this fact.

CHART 28

A girl whose reading needs special attention

Pupil *Jane* Grade *High 5* Type of Section *Fast*



Broken line represents Jane's record.

Vertical line shows the standard for the grade.

Note: Jane's teacher rated her as among the lowest five of her section in general ability, attitude toward work, leadership, language usage, and arithmetic. The library teacher reported that she tells Jane stories to arouse interest in books.

Jane needs the individual attention that will eliminate such difficulties. She has both the ability and the maturity to do satisfactory work with her class. Recognition of her shortcomings and the making of simple adjustments will go a long way toward improving her status. If Jane's coöperation is obtained in improving slovenly study habits, it is probable that within the term she can be brought up to standard in reading and in arithmetic reasoning. Such improvement will be accompanied by improvement in the informational subjects, particularly if her reading is so supervised as to carry her into interesting books that are not too difficult for her. At present she is not interested in reading. When asked what books she liked best, she gave no answer. She has not even given sufficient attention to her favorite magazine, "Women Home Comfmepe," to learn to spell its name.

No physical difficulties are reported, but some attention is needed to Jane's diet as indicated by the fact that she is eleven per cent underweight.

Mary comes from an excellent home that is able to give her every advantage. She takes private music lessons. She is slightly below average in mental ability, but she would be able to do work with a normal class in a satisfactory fashion. During the past semester she has been in a fast section. Her teacher gave her a term mark of B+, but did not rate her in either the highest or lowest five of her group in any of the fifteen items rated. In other words, the teacher rated her as doing work slightly better than the average of her section. One fifth of the members of her class were given higher marks and one half were given ratings as high or higher. Her present teacher reports that Mary does very good work, but frequently attempts to bluff. She reports her also as outstanding in leadership.

In the light of this, it is interesting to note, from Chart 29, that Mary's average achievement is somewhat below the standard for the grade. The unduly high rating given by the

teacher probably reflected her exceptional achievement in arithmetic computation. In this respect she is doing better than the average pupil a year in advance of her grade. She works successfully such problems as:

Multiply

$$\begin{array}{r} 3568 \\ \times 57 \\ \hline \end{array}$$

$$2 \overline{) 17.4}$$

$$\frac{1}{3} \text{ of } 927$$

$$9\frac{3}{5} < 4\frac{8}{5}$$

Multiply

$$\begin{array}{r} 9.83 \\ \times 91.2 \\ \hline \end{array}$$

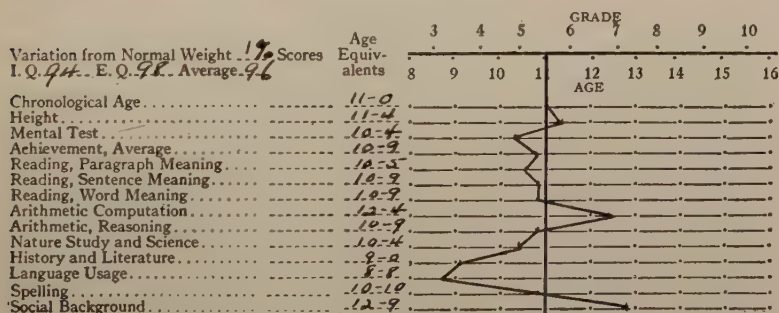
$$.35 \overline{) 24.85}$$

She is exceptionally poor in history and literature and in language usage. In everything else she is quite uniformly from three months to a half year behind the standards for the grade.

CHART 29

A girl who needs to be held to more definite standards of achievement

Pupil *Mary* Grade *High 5* Type of Section *Fast*



The broken line represents Mary's record.

The vertical line shows the standard for the grade.

Note: Mary takes music lessons outside of school. Her teacher did not place her among either the highest or the lowest five of her section in any of the fifteen items rated. Her present teacher reports her as outstanding in leadership.

What Mary needs is to be held to more definite standards of achievement. The qualities that she showed in developing her arithmetic computation — a subject in which progress is easily measured — can be brought to bear also on the other subjects. She needs more definite instruction than she has been obtaining. A few weeks' special attention to the history and literature field, coupled with a library habit already formed and excellent conditions in the home, will improve her weaknesses.

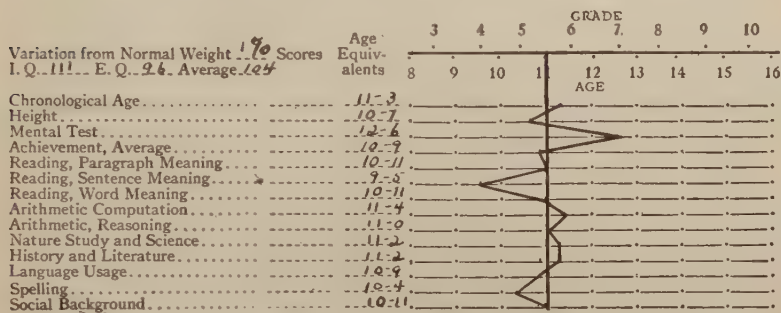
Extra time should be given to exercises on language usage. This work can be made as definite as the arithmetic computation that has taken so much of Mary's time in the past. Time for it may well be gained by having her discontinue the computation aspect of arithmetic for the term, excepting when new principles are being discussed.

Martha was likewise a member of a better section of the class during the last term. In intelligence she is near the upper border line of the normal group. Her last-semester teacher gave her a B+, which was a little better than average for her group. This teacher rated her among the highest five of her group in music and freehand drawing only. She comes from a limited social environment, and is not so mature either socially or physically as the average pupil of her age. She has given some thought to her life occupation and has decided to be a teacher. This is an occupation within her range of ability. Since she is sufficiently interested in this, it can be used as a real motive to urge her to do better work.

Chart 30 shows that Martha is achieving on an average of three months below her grade. This low average is partly due to a low score in one of the reading tests which may be in error; but even if this were eliminated, she would still have a score only slightly above standard. She is slightly above standard in arithmetic computation and below standard in language usage and spelling.

CHART 30

A girl whose abilities are being neglected

Pupil *Martha* Grade *High 5* Type of Section *Fast*

The broken line represents Martha's record.

The vertical line shows the standard for the grade.

Note: Martha's teacher rated her as among the highest five in her section in freehand drawing and music.

Martha is capable of doing much better work than she is now doing. She should be expected to do better work than the average pupil. She may well be given extra library assignments with sufficiently definite questioning to insure her improvement in interpretative reading. A little attention in this field will doubtless serve to improve her reading, so that special assignments involving extensive reading will not prove an undue burden.

Martha is a failure case of the sort that in the end proves to be one of the most serious. The chances are that she has slovenly work habits. This can be readily discovered by observing her in study. Does she permit all varieties of things to interrupt her? Is she capable of sustained application? Those that have made such studies have shown that bringing to a pupil's attention his failure to keep himself at the task, is often an effective method of improving study habits.

It should not be overlooked that Martha does not need to work the normal number of problems nor to give the normal amount of practice to spelling to obtain normal results. Her time spent on drill subjects should be limited and more time should be given to special projects that can be definitely checked.

Special projects may be developed to correct some of Martha's deficiencies in social information. She is deficient in knowledge of how to comport herself at the table and with people. Lack of help in this field may be more serious in the long run than lack in spelling. Her special aptitude in freehand drawing may be called upon. She may well be asked to make posters for the class, the making of which will demand information which she now lacks. Others in the class will profit. She will be developing her social life through service to the group and will be developing a special aptitude.

Still another problem that should be faced is Martha's training in music. She is outstanding in her school work in music. She likes piano music and there is a piano in her home. Some time each day should be set aside for piano practice, if the school can arrange it. Many progressive schools are making such arrangements. There is also a possibility that her parents may become sufficiently interested to make the additional sacrifice demanded for private lessons. There is a large family, however, and a small income. There is no adequate reason why the school should not provide the instruction. From the standpoint of culture, human happiness, and personal efficiency, there are many other things that the schools will later offer Martha that cost as much and amount to less. In case Martha does progress in her present ambition to be a school-teacher, would you from your own experience judge that it is worth while giving her music lessons as a part of the enriched educational program that her superior ability makes possible?

Minnie is another girl who wishes to become a school-teacher. She is tall for her age and 24 per cent overweight.

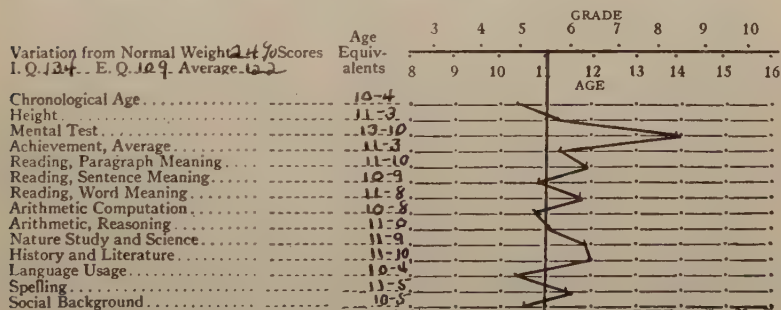
She was classified last semester in the poorer section and given a B— as a final mark. This mark, or a higher one, was given to about 20 per cent of the section, and to a third of all boys and girls in the entire class. She was not rated as outstanding in the group in any respect, but was placed as one of the poorest five of the section in freehand drawing. She comes from a meager home and works for pay outside of school time. A report obtained during the semester following indicates that she was doing average work, was trying very hard to please, and was taking an interest in outside reports for class work.

In Minnie we have a most interesting example of the errors arising in teacher judgment when it is unaided by standard devices. Although she is but slightly over ten, she has a mental development equal to that of the average boy or girl of 13 years and 10 months. Her I. Q. is 134. Her E. Q. is 109.

CHART 31

An exceptionally bright pupil whose ability has been greatly underestimated

Pupil *Minnie* Grade *High 5* Type of Section *Slow*



The broken line represents Minnie's record.

The vertical line shows the standard for the grade.

Note: Minnie's teacher did not rate her as among the best five of the section of the class in which she had her classified. She rated her as among the poorest five of her section in freehand drawing.

It is interesting that although Minnie has been in this school since the beginning of her school life, she is now considered one of the duller pupils in a class in which she actually has but two or three peers. She is obviously a case for individual study. There may be a health difficulty and there certainly are bad study habits.

Let us look at her educational accomplishments as shown by the tests. Chart 31 shows that she is up to standard for this grade. She reads somewhat better than standard, but nowhere near her mental level. She has better than standard knowledge in nature study and science and in history and literature. We may associate this with the development of the public-library habit, inasmuch as Minnie's home provides a very meager supply of reading matter.

Minnie is relatively poor in arithmetic computation — a fact that again probably throws light on the teacher's poor rating. She is poor in language usage also. Like Martha, her knowledge of correct manners, as indicated by the social background list, is very meager.

A careful study should be made of other factors than those now available to discover the reasons for Minnie's failure to impress her teachers with her ability. Whatever the cause of this in the past, the fact remains that Minnie had been doing better than average work as far as results are concerned. She is up to standard and needs attention called to her shortcomings more particularly than coaching. She is not a coaching case. In recognition of her superior ability, an extensive program of enrichment should be laid down for her. She should be given assignments in the informational subjects that will take her farther afield than the average pupil. This added work should be checked as definitely as any other work done in the school. She has time for training in music and in the social information that she is lacking. What an opportunity this is to give her and Martha an assignment that will result in the use of Minnie's

superior ability in obtaining information and Martha's superior ability in portraying it!

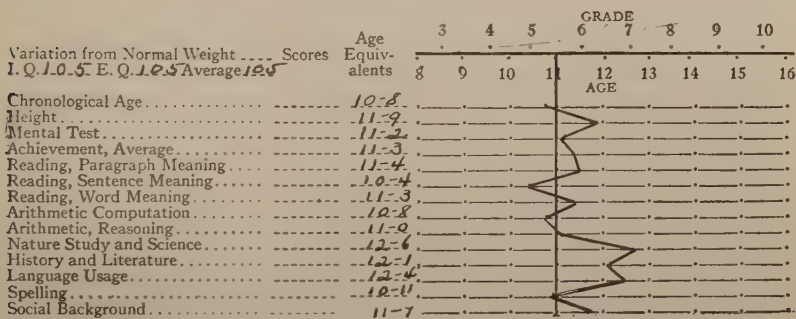
The discovery of the potential powers of a boy or girl like Minnie is one of the factors that raises the work of the teacher to the level of a creator.

Leon has exceptional home opportunities. He is an only child. He is pleasant to work with, but he lacks self-reliance. He has ability somewhat above the average. His last-semester teacher gave him a term-end mark of B. His teacher rated him among the poorest five of the higher ability group of his class in general ability, attitude toward work, leadership, language usage, arithmetic, and spelling.

CHART 32

An able pupil whose abilities have been underestimated

Pupil *Leon* Grade *High 5* Type of Section *Fast*



The broken line represents Leon's record.

The vertical line shows the standard for the grade.

Note: Leon's teacher rated him as among the lowest five of his section in general ability, attitude toward work, leadership, language usage, arithmetic, and spelling. He is reported as slow and indifferent in his work in arts and crafts and extremely timid in music. Although he answers all technical questions, his teacher never expects him to sing alone.

On the tests, as indicated by Chart 32, Leon made scores indicating that his achievement is standard for his grade. He

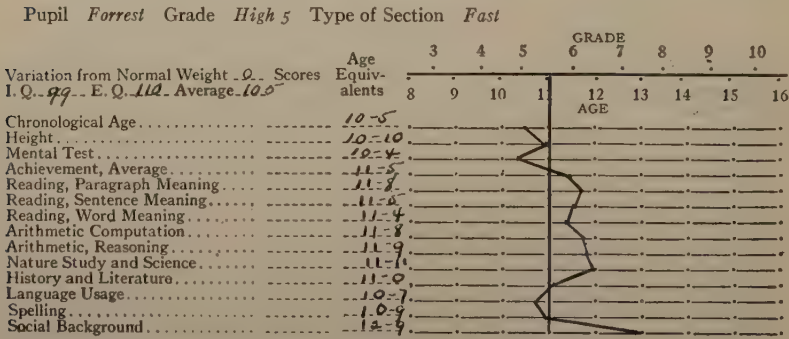
did not fall low in anything except multiplication and in the sentence-meaning test in reading. He made exceptionally good scores in nature study and science, history and literature, and in language usage.

Leon's work in multiplication should be given special attention. His program taken all in all should be somewhat heavier than that of the average pupil. No particular lead is given by the data available except in the direction of leadership. Leon is the sort of boy who does not play well with other children. Every encouragement should be given him to enter into the playground activities with the other children.

Forrest was a member of the better section of his class last year. He received C+ as a term-end mark. His teacher rated him among the poorest five of his section in general ability, attitude toward work, leadership, freehand drawing, arithmetic, and spelling. His test results, as indicated in Chart 33, show

CHART 33

A pupil who needs an emphasis in his school subjects different from that of the average pupil



The broken line represents Forrest's record.
The vertical line shows the standard for the grade.

Note: Forrest's teacher rated him as among the poorest five of his class in general ability, attitude toward work, leadership, freehand drawing, arithmetic, and spelling.

him to be somewhat better than average in ability. His achievement test results were all a little better than standard for the grade. He is considerably above standard in everything but history and literature, language usage, and spelling, but in no test more than a year above standard.

The work for this semester should place emphasis on language usage until it is brought up to standard. He should be given less work to do than the average pupil in such work as arithmetic computation and expected to do work of a different and superior sort in at least one information subject.

It is of interest that in spite of his superior work he was rated low in ability, attitude toward work, and in leadership. The explanation for this was that he found the work of the previous semester too easy for him. He had begun, therefore, to show signs of being a disciplinary case.

Harold is Forrest's chum. They both wish to become doctors. They both claim that "Billie Whiskers" is the most interesting book. They are of equal intelligence. Harold, however, made a better impression on his teacher. His teacher says, "Harold is the kind you must discover for yourself, but when once discovered remains so. He is a fine, quiet-mannered little fellow." His last-semester teacher gave him a term-end mark of B+ and rated him among the best five of his group in freehand drawing. On the achievement test, as indicated in Chart 34, his average was somewhat above standard. He fell below standard in the sentence-meaning reading test and in spelling. He made exceptional scores in history and literature, in language usage, and in the paragraph-meaning reading test. In the light of this, the low score in the sentence-meaning reading test was probably not significant.

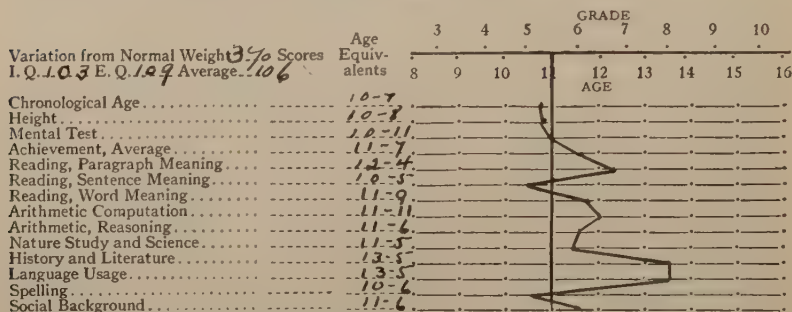
The greatest need indicated from these data is the enrichment of school opportunities. Harold should have all drill work except that in spelling reduced, and should be given additional educational opportunities. His advanced reading ability

makes a broader educational experience easily available through books.

CHART 34

A boy whose school opportunities may be enriched

Pupil *Harold* Grade *High 5* Type of Section *Fast*



The broken line indicates Harold's record.

The vertical line shows the standard for the grade.

Note: Harold's teacher rated him as among the best five of his section in freehand drawing. She reports him as doing occasional advanced work in arts and crafts and as having unusual artistic taste.

Needed adjustments in other elementary grades. — The needs of a fifth-grade class are characteristic of the needs of boys and girls in the grades below and immediately above the fifth. The tests which are available for the fifth grade are for the most part applicable to the third and fourth grades. In the first and second grades the task before the teacher is not so extensive. There is less variety of achievement which lends itself as yet to measurement. The diagnosis made by the teacher in the first grade is limited to information from the home or the kindergarten plus information obtained from such intelligence tests as the Detroit Kindergarten Test. In the second grade such information can be supplemented by reading tests such as the Haggerty Reading Test and the Gates Primary Reading Tests.

The use of these tests has been illustrated in the preceding chapter, page 172.

The adjustments that have been discussed must be supplemented by the type of day-to-day adjustment that is discovered by the experience of the teacher with the pupils and through the frequent use of diagnostic tests. Such tests should result in the occasional skipping of units of material by some pupils in the class, and the additional assignment of drill material to other pupils. The psychological law to be held in mind in applying the results of such tests to instruction is that able pupils need less drill material and dull pupils more drill material to reach a given standard of attainment.

Summary of adjustments affecting instructional procedure. — The demands of individual differences upon classroom procedure in the elementary school may be summarized as follows:

Correction of Deficiencies:

1. Make-up work required by skipping.
2. Make-up work required by failure or deficiency in one or more subjects or units of subjects.
3. Assignment of activities to correct deficiencies in home training or social background.
4. Assignment of activities to correct deficiencies in social habits or attitudes.
5. Attention to the correction of physical or health defects.
6. Consideration of ability to comprehend in assigning reading in informational subjects, and setting assignments in such a manner as to correct deficiencies in reading abilities.

Adjustment to Low Ability:

7. Assignment of extra drill.
8. Making simpler assignments and setting less extensive standards for mastery.

Adjustment to Proficient Pupils:

9. Omission of subjects.
10. Omission of units of subject matter.
11. Omission of all but new aspects of subjects.

12. Minimum amount of drill assigned and a minimum amount of time allowed when able pupils are not expected to exceed standards set for pupils of average ability.
13. Enrichment of the programs of individuals by adding activities or subjects outside of the regular curriculum.
14. Enrichment of the programs of individuals by increasing the number and variety of applications of principles involved, or by varying the method of attack.
15. Enrichment of the programs of individuals by adding new subject matter in the ordinary subjects.

Meeting the instructional problems under traditional conditions. — From the discussion in the preceding section, it is obvious that a teacher can in a short time discover a great many of the individual problems which his instruction must take into consideration if it is to be the most successful instruction. It is the purpose of this section to point out how a teacher may meet such problems under traditional conditions and with a minimum of outside assistance. Later chapters discuss a variety of ways in which the organization of the school as a whole attempts to simplify the task of the teachers in meeting these problems.

Progress in meeting individual needs in school systems frequently arises from an outstanding piece of work done by one or more teachers who seriously attack the problem without outside assistance. In other cases, school officials find it desirable to demonstrate the importance of such work through introducing it in an occasional classroom. From a nucleus of successful work in individual classrooms, they can then introduce the necessary adjustments on a broader scale and develop the administrative aids discussed in the later chapters.

It is quite obvious from the discussion of the preceding section that teaching boys and girls is no simple matter of preparing a particular presentation, giving one specific set of instructions, and setting the boys and girls to work. According to Table 22, we find that in our fifth-grade class there is not a boy or girl who does not need at least a little individual attention

that can be predicted from adequate records prior to meeting the class.

Classification of adjustments. — The amount of adjustment required in an elementary class seems at first to present an impossible situation. The saving thing about these adjustments is that all do not require attention every day. They may be classified as:

1. Those that need attention once only; i.e., those that can be cared for in developing the pupils' programs for the term.
2. Those that need attention occasionally or those that may be cared for through large projects lasting over a considerable period of time.
3. Those that demand daily attention; i.e., those that must be cared for in the day-to-day assignments.

Adjustments made once only. — The omission of subjects, addition of instrumental music, additional practice in instrumental music, and the giving of intelligence tests may all be cared for once and for all in laying out the pupils' programs. These include the adjustments indicated by the symbols 1, a, b, e, and k in Table 22, pages 200-201, and those numbered 9 and 13 in the summary list on pages 217-218. Such adjustments occur twelve times in Table 22 and affect nine different pupils. Once cared for they demand only the casual supervision of the teacher.

Adjustments demanding occasional planning. — Very much akin to the adjustments in the preceding section are those adjustments which can be cared for by planning large units of work that will cover several days or even a large portion of the term. One of the most outstanding among these is the work to be done with pupils who have skipped the work of the preceding term. Caring for such boys and girls is a difficult problem unless materials are provided upon which the pupils can work in their free time with a minimum of supervision. In the group shown in Table 22 there are two boys who have skipped the preceding half-grade. Plans should be so made that the two

boys who are to omit spelling for the term should, during the spelling time, work on materials covering the low-fifth-grade work, which they are skipping. Again, when the teacher announces that Fred, who is to be excused from the greater part of arithmetic computation, has no responsibility for the next day's class, it should not be necessary to tell him that this time is purposely freed for the low-fifth-grade work. In other words, pupils who have skipped the preceding work should be given time during the day when they take out the individual materials covering the work they have skipped and give their time to them. It should not be necessary to hand them out special work every day.

In a similar manner such pupils as Mary, Rose, and Irene, when excused from the work in arithmetic, should understand that the time thus freed is to be given to the additional activities which have been assigned them. For example, Mary will give her time to the projects in literature or the self-administering exercises in language usage which have been laid out for her.

The adjustments numbered 1, 2, 3, 4, 5, 10, and 15 in the summary list, pages 217-218, fall under this classification. These adjustments are indicated in Table 22, pages 200-201, with the symbols 2, c, d, f, g, h, i, and j. Our analysis of the fifth-grade class shown in Table 22 shows the need of thirty such adjustments, affecting eighteen pupils.

For the easy administration of all these adjustments, it is necessary to have self-administering individual materials. Happily, more and more materials of this nature are becoming available. The development of such materials is receiving great impetus from those interested in individual instruction. A few sets of materials covering the low-fifth-grade work will make it possible for the pupils who are skipping the work of that term to cover the essential features of the work with a minimum of attention from the teacher. An extended list of materials now available, together with the publishers, is given in the Appendix.

The next best procedure is to follow the plan used in many individual-instruction schools. The regular textbooks are used as a basis for the procedure. The teacher breaks up the material into assignments, setting up each assignment as a problem which may cover several days' work. At the end of the problem, an objective test is given which the pupil can score himself. If he does the trial test satisfactorily, he can present himself for a final test. The assignment sheet will thus provide trial tests and keys. The objection may be raised that it is more trouble to develop the materials than to give the pupil oral assignments and test him orally from time to time. The advantages of the written-assignment plan, however, are:

1. That once it is made it can be used over and over for this purpose.
2. Preparation can be made for large units of material which will demand a minimum of attention from the teacher during the school days.
3. They make available easily administered drill materials for pupils who need extra drill.

The possibilities of this sort of plan are illustrated by the following statement from Mrs. Katherine A. Howard, who developed materials for a junior-high-school coaching class in Lynn, Massachusetts:

Pupil goes to wall pockets and finds study sheet for subject needed. He reads every reference and does every exercise suggested. When his study period is over, his unfinished work, or work that must be corrected by the teacher, is put in envelopes and marked. When he is sure of his subject he asks for a test. If his test is very nearly perfect, the subject is checked off and written on chart. He then starts a new subject. If he fails, he studies again the part failed in and makes sure he knows it. He then takes Test B. If he hasn't read carefully every reference and done every exercise, he may have to take Test C or even Test D. He learns habits of careful study, attention to details, etc. If he comes back for help it isn't to the teacher, but to consult some book he has found helpful.

The following is one of Mrs. Howard's assignments in grammar:

Simple, Complex, Compound Sentences.

1. Hermans, p. 23, III, ex. 2 as far as directions, p. 24. Learn definition of clause, independent clause, and dependent. Hermans, p. 106, X, ex. 1. Read every word as far as directions 107. Learn definition of simple, complex, and compound sentences as found here. Do ex. on p. 107. Do not write entire sentence — only dep. clause. When finished, correct from teacher's notebook. If every one was correct do question 3 on this paper; if not, do ex. on p. 110.

2. Study directions for determining kind of sentence as given by Miss Weeks. If you haven't them, ask Mrs. Howard for hers. Hitchcock Junior Eng., p. 339. Write 10 numbers in a column, after each kind of sentence. Be able to prove each one by the definition.

3. If you still have difficulty, see your teacher for individual help. Ball, p. 37.

A similar plan may be used in providing a broader educational program for able pupils. Much of the day-to-day burden may be taken from teachers' shoulders if individual activities that do not necessarily have an immediate bearing upon the class work in any subject are introduced as enrichment materials. We have a vast universe from which to draw in providing such enrichment. The easy and never-failing source is in books — books of travel, biography, history, description, science, etc. Such a list of books, provided for the free time of Minnie, Leon, Forrest, and Annabelle, will care for the enrichment of their school programs over long periods. Tests may be made out to cover each book or a major part of it, testing both content and attitudes so far as possible. At times the final test may be in the nature of a composition for the language class or an oral book report to the group as a whole or to the teacher.

When such tests can be worked out coöperatively with other teachers, the field of the individual teachers may be widened. The possibilities are illustrated by the work of a supervisor in the Jacksonville, Florida, school system. Under her guidance, a group of teachers chose a series of books to be used as enrichment

materials for their pupils. The responsibility for developing tests covering these books was then placed upon a number of teachers. The combined result of their work was then made available to all. The following is a list of questions and answers that were developed by a sixth-grade teacher for "Black Beauty."¹

Black Beauty — Questions

1. Use one word to describe each of the following:
 - a. the six colts.
 - b. their master.
 - c. the plow boy.
2. What two sad events resulted from the chase?
3. Suggest other names suitable for a. Black Beauty; b. Ginger.
4. Name three features about the "breaking in" that Beauty found to be most unpleasant.
5. Compare the tempers of Black Beauty, Merrylegs, and Ginger. Remember — compare means to tell how alike and how different.
6. Why is one chapter in this book called "Liberty"?
7. How were the horses rescued from the fire? What is unusual about this event?
8. What were the two most important moments in Beauty's life? Tell the result of each.
9. What change took place in Beauty's life after the Horse Fair?
10. Governor Gray said, "If you ever get rich, Jerry, you'll deserve it." What led him to say that?
11. Jerry was kind to the needy. What act shows this to be true?
12. What surprise awaited us at the end of the story?
13. Here are two lists. The names of six grooms who had charge of Black Beauty and six words that describe them respectively. Match each name with the word that properly describes the groom. As, James — trustworthy.

James	careless
John	thoughtful
Joe Green	kind
York	merry
Alfred Smirk	severe
Jerry Barker	trustworthy

¹ The writer is indebted for this test to Miss Hallie Scoville, Elementary Supervisor of the Jacksonville, Florida, Schools. It was devised by Mrs. Jessie M. Foster, a sixth-grade teacher in Jacksonville.

14. Choose the groups that identify each of the following horses. Write the name of the horse and the proper description by its side. As, Black Beauty, the most important horse in the story.

Black Beauty	bobtailed
Rob Roy	very gentle
Sir Oliver	quick-tempered
Merrylegs	a bran cob
Justice	the runaway
Ginger	died after an accident
Lizzie	most important horse in the story
Captain	brother of Black Beauty

15. Here is a list of men whom Black Beauty served. Name the three who treated him better than the others.

Squire Gordon	Jeremiah Barker
Mr. Manley	the corn dealer
the liveryman	Mr. Thoroughgood

Black Beauty — Answers

1. Such words as the following may be considered as correct:
 - a. ordinary, ill-bred, rough, etc.
 - b. gentle, kind, etc.
 - c. cruel, etc.
2. Gordon was killed; also the horse, Rob Roy.
3. a. Ebony, Darky, etc.
b. Spice, Snappy, etc.
4. a. Placing the bit in the mouth.
b. Adjusting the harness.
c. Putting on the shoes.
5. Black Beauty and Merrylegs were very much alike. They were very gentle, agreeable, and happy. Ginger was disagreeable and unhappy.
6. This chapter tells how Black Beauty longed to be free to roam in the meadow.
7. a. John and James led the horses out. Beauty's eyes were covered with John's scarf. Ginger heard Beauty's whinny and followed the sound. Some horses came out in confusion.
b. Most horses will not move out of a burning building.

8. *a.* When he traveled at top speed to call the doctor. As a result the life of Mrs. Gordon was saved.

b. When he refused to cross the toll bridge even though his master urged him to do so. As a result he saved the lives of John and the Master.

9. Black Beauty was purchased by Jeremiah Barker to be used as a cab horse.

10. Jerry always refused to accept extra money if it meant that he had to hurry his horse more than usual. He considered it better to be kind to his horse than to get rich by imposing on a dumb animal.

11. Jerry took a woman and her four-year-old child to the hospital in his cab and did not charge.

12. Black Beauty was sold to a man whose groom was no other than Joe Green. Joe recognized Black Beauty by the star on his forehead, etc. Black Beauty now enjoys life so well that he often dreams that he is in the orchard with his friends.

13.	James	trustworthy
	John	kind
	Joe Green	merry
	York	severe
	Alfred Smirk	careless
	Jerry Barker	thoughtful

14. Black Beauty — the most important horse in the story

Rob Roy — brother of Black Beauty

Sir Oliver — bobtailed

Merrylegs — a gentle horse

Justice — a bran cob

Ginger — quick-tempered

Lizzie — the runaway

Captain — died after an accident

15. Squire Gordon

Mr. Thoroughgood

Jeremiah Barker

This sort of test is an excellent beginning. A little attention, however, to the mechanical make-up of it would simplify the labors of each teacher who has to use it. For example, in question number 13, the words *careless*, *thoughtful*, *kind*, *merry*, *severe*, and *trustworthy* could be numbered from 1 to 6 and the pupil could be asked to place the number of the descriptive word

in a blank opposite the name. To the extent that pupils can be asked to indicate an answer in a simple manner on the question sheet, the scoring of the test will be simplified. This, of course, requires a new sheet for each pupil.

In the development of such tests for supplementary reading, attention should be given to the following points:

1. The tests should measure how well the reading has served its intended purpose.
2. The form of the test and the key should be such as to make possible rapid scoring.
3. There should be a simple plan of recording results.
4. The tests should be in such form as to make them easily accessible to the teacher.

Only the first point needs discussion. The tendency is to make such tests simply tests of details about topics. While in some cases the purpose of reading is mastery of factual content, in other cases the purpose is to develop appreciation or to encourage a proper response to type situations presenting a choice between a desirable and an undesirable line of thought or action. This may be illustrated from the introductions of three supplementary books.

"This book is an introduction to the study of Geography. Its aim is to give the child his first view of the world as his home: to instill into him a lively interest in people and things outside his own environment. . . . He learns something of the size and shape of the earth, . . . Equator, . . . zones, . . . Japan and the Philippines, . . . China and Holland," etc., through visits to the children of these parts.¹

"This elementary history of Greece is intended for supplementary reading or as a first history textbook for young pupils. It is therefore made up principally of stories about persons; for . . . children . . . are able at an early age to understand and enjoy anecdotes of people, especially of those in the childhood of civilization. . . . They also aim to enforce the lessons of perseverance, courage, patriotism, and virtue that are taught by the noble lives described."²

¹ Carpenter, Frank G., *Around the World with the Children*. American Book Company.

² Guerber, H. A. *Story of the Greeks*. American Book Company.

"One of the objects of this book is to provide a series of experiences related to civic attitudes and activities in such a way that they will stimulate children to think and so enable them to profit by the experience of others.

". . . The good citizen is one who does things, not one who merely thinks or talks about doing them.

"It is hoped that this book . . . will cultivate the power to face real situations thoughtfully; to form clear and accurate judgments of desirable behavior. . . .

"As perseverance, self-control, courtesy, thrift, honesty, and other virtues may be used for selfish ends, an effort has been made to set up worthy ideals for their exercise. . . ."¹

Illustration 12, page 229, shows a test² on a chapter in one of these books, designed to meet the above conditions. Several copies of this test are placed in a binder with similar tests on other parts of this book. When a pupil has read a section of this book as a supplementary assignment, his teacher turns to the binder and tears out a copy of this test along the perforated line at the left. When the test has been scored, the record sheet and key at the left can be filled out and filed in the pupil's record folder.

A word should be said here as to the availability of good books. First, there is a high probability that school authorities will purchase books for the teacher who can present such a plan as this for using them, particularly if he takes with him the story of the Annabellies and the Janes and the Franks in his class. With this method there is a possibility of coöperating with the public library. If there is not a library in the locality, there is a possibility of getting coöperation from a county library, from a state library,³ or from a university extension library. There is little excuse these days on the score of books not being available.

¹ Finch, C. E., *Guideposts to Citizenship*. American Book Company.

² Dransfield, J. E., Principal of School Number 3 of West New York, New Jersey. Mr. Dransfield has developed such tests for the work of his teachers in the administration of supplementary work of individual pupils.

³ Thirty-one states have empowered a state agency to send out traveling or circulating libraries to schools. See Koos, F. N., *State Participation in School Library Service*, Bureau of Publications, Teachers College, Columbia University, 1927, p. 150.

Now, as never before, Superintendents can obtain materials from Boards of Education when they can demonstrate the uses to which the materials are to be put. Failing this source, the teacher may call upon the other sources mentioned.

Another group of adjustments that require only occasional attention is the training in associating with others, analysis of work habits, giving attention to health, and giving evidence of personal interest. Perhaps the most important adjustment that can come to a socially starved little bookworm is to have someone come along at the proper moment who will see that he gets into the game with the other boys. An interesting case of adjustment was that given to a boy who was a very bright youngster, but lacking in strength. The family doctor recommended that he be given more time out-of-doors. The school afforded no out-of-door classes. It was then that a teacher with a genius for meeting situations suggested that he spend half of the day in school and half of the day gathering specimens for the nature-study class.

Still another case where adjustment of the occasional type is needed was discovered recently by the writer. He noted that a seventh-grade girl was giving very close attention to some arithmetic work that she was doing on gray drawing paper. Upon inquiry he discovered that she was not allowed to do any close work at home on account of serious eye trouble. She was asked why she did not make larger figures on the paper. Her answer was that she could see the figures that she was making all right. Every effort was being made by the home to carry out the instructions of the physician, but somehow or other, the little girl had the idea that school did not count. She could go on hour after hour at school impairing her eyesight by reading fine print and making small figures without any interference.

It must be remembered that boys and girls are growing, developing individuals. Each one of them occasionally needs something done for him that is different from the ordinary.

ILLUSTRATION

12. A CHECK TEST FOR SUPPLEMENTARY READING

For Pupil's Record		OUR AMERICA		Test 1	
Name -----		Name -----		-----	
Score -----		GUIDEPOSTS TO CITIZENSHIP — Finch		Grade -----	
Age -----		American Book Co. P. I.		Date -----	
Grade -----					
Date -----					

Where there is a blank line in the following statements, write just one or two words for each line so as to make the statement true.

Where there are two or more words or statements in parentheses, write the letter that indicates the proper answer in the blank at the right.

- The Continental Congress had just agreed to the Declaration of Independence on (a) August 1, 1789, (b) July 4, 1776, when a suggestion was made to have a coat of arms made. -----
- Three men, -----, and ----- were appointed as a committee to make up the coat of arms. -----
- The central symbol was an -----.
- This was left incomplete because (a) the nation was complete, (b) the nation could never be completed, (c) each succeeding generation was expected to build its part. -----
- If the founders of our country failed, they would have been treated as (a) great men, (b) patriots, (c) traitors. -----
- Loyal Americans have since (a) built up, (b) left as it was, (c) torn down, what the founders set for them. -----
- We must (a) prepare ourselves to do our share, (b) let others do it, (c) forget about the future of our country. -----
- Our forefathers left us fine ideals of honest endeavor, of ceaseless industry, of untiring perseverance and of unselfish service to our country which we should (a) forget, (b) maintain, (c) pass on enlarged and improved. -----
- A nation is made great by its (a) railroads, (b) land, (c) mines, (d) citizens. -----
- Tricky got his name because he (a) played fair, (b) disliked to hurt others, (c) could not be trusted. -----
- The workmen said that Bob was a good American because he (a) helped others, (b) took care of himself only. -----
- To be a good citizen one should (a) do only the easy things, (b) do both the hard and the easy things. -----
- A good citizen should (a) get all he can for nothing, (b) prepare himself to serve the United States in the best way, (c) help the other fellow. -----
- The boys and girls of today have the task of (a) increasing the wealth of America, (b) solving the problems of their country, (c) carrying on the great work of their forefathers. -----

Test Key

1. ----- *b* -----
2. Franklin, Jefferson, John Adams
3. Unfinished pyramid
4. ----- *c* -----
5. ----- *c* -----
6. ----- *a* -----
7. ----- *a* -----
8. ----- *c* -----
9. ----- *d* -----
10. ----- *c* -----
11. ----- *a* -----
12. ----- *b* -----
13. ----- *b* -----
14. ----- *c* -----

Remarks

OUR AMERICA
Guideposts to
Citizenship
Finch
American Book Co., P. I.

Purpose Question
Content 1, 2, 3, 4, 5,
6, 7, 8, 9, 12
Appreciation 6
Discrimination 10, 11, 13, 14
Mark the key instead
of the test. The de-
tailed score will thus
become a part of the
pupil's record.

Blessed is that teacher who does not allow formality of class work to interfere with his power of suggesting unusual treatments needed for boys and girls.

Adjustments that Demand Daily Attention. — In the preceding sections, we have cared for all adjustments in Table 22 except those indicated by 0, 3, 4, 5, 6, 7, 8, and 9. These are:

- 0 — Extra drill.
- 3 — Detailed reading instructions on easier materials.
- 4 — Detailed reading instructions on normal materials.
- 5 — Detailed reading instructions on more difficult materials.
- 6 — Subjects in which all but new principles or methods are to be omitted and only minimum assignments given on new aspects.
- 7 — Subjects in which minimum assignments are given and minimum time for study considered in making individual programs — standard of the average pupil to be met.
- 8 — Subjects in which more applications are made of a different nature from the normal — or new materials brought in, or different methods of attack used for the purpose of enrichment.
- 9 — Simple assignments and lower standards (in the sense of scope — not mastery).

They are summarized in the list on pages 217-218 under numbers 6, 7, 8, 11, 12, and 14.

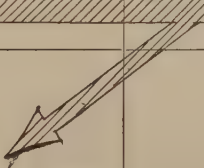
It will be noted that all these adjustments have to do with the work assigned in classes from day to day. They must be cared for in each lesson plan. A space in the teacher's lesson-plan outline may well provide for such variations in assignment. Illustration 13 gives a page from a plan book which makes such provisions.

Where extra drill is needed, the teacher must estimate the amount of adjustment demanded unless he uses some of the newer individual-instruction materials. For example, a pupil needing more drill may need 20 per cent more problems to solve than the average, or 30 per cent, or 100 per cent. Both class work and occasional tests will serve to check the reliability of these estimates.

ILLUSTRATION 13

A PAGE FROM A PLAN BOOK WHICH PROVIDES FOR THE RECORDING OF INDIVIDUAL ADJUSTMENTS MADE BY THE CLASS TEACHER¹

TEACHER'S PLAN

UNIT OF WORK Lesson, Experiment, Activity, or Project		
RESULTS SOUGHT In Habit or Skill, in Knowl- edge, in Appreciation, in Ideal or Purpose		
PLAN The Plan of the Work, Method, or Procedures	In addition to this record of plan the book calls for a listing of materials, tools, or other equipment which may be needed in carrying forward the particular enterprise undertaken. Still more important is the record of special help that is given to children who need it and plans for unusual assignments to children of more than ordinary ability. The record of equipment and supplies needed should always be made before the work is undertaken. It will frequently happen that the record of special help or special assignment can best be made after the work of the day or week which is recorded. It is of the utmost importance, however, that the record be kept, otherwise the teacher is likely to forget what has been done by way of making these special adjustments.	
EQUIPMENT AND SUPPLIES NEEDED Special Materials, Tools, or Other Equipment, Books, Maps, Charts, and the like		
SPECIAL HELP Plans for bringing individ- ual pupils up to standard in school subjects, in health, or in social in- formation or habits		
ENRICHMENT Provisions for enriching school opportunities of individual pupils		

The adjustment to reading ability can be cared for most readily when there is available a variety of supplementary reading material ranging in difficulty from the level of a grade

¹ Geo. D. Strayer, N. L. Engelhardt, and Paul R. Mort, *Plan Book for Elementary School Teachers*, Bureau of Publications, Teachers College, Columbia University, 1926.

or two below, up to adult level. The choice of such materials is facilitated by such graded lists as the *Winnetka Graded Book List*.¹ Supplementary books of lower-grade and higher-grade levels can be used also as tools for developing reading ability. There is some advantage here if all the books available in the school are kept in a central book room or library where they are available to all pupils and teachers.

In the adjustments indicated by number 7 in Table 22, the estimates to be made are similar in type to those where more drill is needed.

In the case of the adjustment calling for simpler assignments and lower standards, the teacher must again use his judgment as to the type of attainment that is satisfactory. Recent courses of study are suggesting the omissions which may be made for pupils of low ability.² If such materials are not available in the courses of study in use, the teacher will do well to obtain such valuable pieces of work as Baker's *Characteristic Differences in Bright and Dull Pupils*.³

The following excerpt from a recent monograph on Promotion Standards in Grades One to Six,⁴ shows the nature of one of the most significant pieces of work along this line.

READING

Introduction

In the subject of Reading it is very difficult to set hard and fast lines. No two individuals are alike so far as ability to read is concerned, and we are coming more and more to feel that to meet the reading needs of children in a schoolroom, as those needs arise, is our main responsibility rather than

¹ Washburne, C. A., and Vogel, Mabel, *Winnetka Graded Book List*, American Library Association, Chicago, 1926.

² Numerous suggestions are found in the courses of study in use at present in the cities of New York, Detroit, Trenton, Los Angeles, Oklahoma City, and Houston.

³ Baker, H. J., *Characteristic Differences in Bright and Dull Pupils: An Interpretation of Mental Differences with Special Reference to Teaching Procedures*. Public School Publishing Co., Bloomington, Ill.

⁴ *Promotion Standards for X Y Z Groups*, copyright by Detroit Board of Education, 1926. (Multigraphed.)

to set prescribed limits for groups of children. Furthermore, the abilities of X, Y, and Z groups overlap. For instance, while, in general, X children surpass Y's, and Y's surpass Z's, yet there are always some individuals in these groups who do not conform. Some X children may work better in Y groups and vice versa. It is not the purpose of these reading standards either to hinder individual progress or to prescribe more work than can be well accomplished. They are rather to be used as a guide along broad lines. No teacher should be bound by them if her particular situation should require more simple or more difficult material than is planned for the various grades and groups. However, they should prove very helpful as a foundation for procedure in teaching reading.

* * * * *

GRADE 2B

X GROUP

1. Ability to generalize from known sight words the long sound of vowels and the effect of final *e*.

2. Ability to generalize from known words such as *rain*, *boat*, *meat*, etc., the fact that when there are two vowels together in a word or syllable, the first is usually long and the second one silent.

3. Ability to generalize from known words the following elements: *ar*, *aw*, *ir*, *ow*, *oo*, *or*, *ew*, *ou*, and use this knowledge in making out new words.

A marked degree of ability to pronounce new words through application of phonic rules previously learned.

4. Read one first reader and one second reader intensively.

5. Read one half of an additional second reader intensively.

6. Read as many first readers as are available, as supplementary.

Be able to read silently and comprehend material of at least this degree of difficulty — Comprehension evidenced by ability to follow directions indicated in each separate type following.

7. One day I saw two girls under a tree. The smaller one wore a blue dress. She had a pretty blue hair ribbon. She was jumping rope. The taller one wore a brown dress and a brown hat. She had a ball to play with.

Can you draw a picture of what I saw?

8. "Some things go to sleep in such a funny way.

Little birds stand on one leg and tuck their heads away;

Kittens curl up close in such a funny ball;

Horses hang their sleepy heads and stand still in a stall."

Play you are sleeping, first as birds do, then as kittens, then as horses.

9. "Little Ben lived with his grandmother in the basement of an old house. The warm sunshine never came into their rooms, and Grandmother was too sick to go outdoors."

What was it that never came into their rooms?

10. "'What shall I do?' said the little girl. 'My mother must have nice, cool water. I will run to the spring in the woods. It is very dark, but I must not be afraid.'"

The little girl was: thoughtless — brave — careless — strong. Put a line under the right word.

By the end of the semester the children should be able to read orally at sight with correct emphasis and adequate expression of meaning, first-reader material.

Y GROUP

1. Ability to generalize the short vowel sounds from known sight words and use this knowledge in making out new words.

2. Ability to generalize from known sight words the long sounds of vowels and the effect of final *e*.

A degree of ability to recognize a word from context.

3. Read two first readers intensively.

4. Read at least one supplementary first reader.

Be able to read silently and comprehend material of at least this degree of difficulty — Comprehension evidenced by ability to follow directions indicated in each separate type following.

5. There are three children at our house, a big girl, a little girl, and a baby girl. One day mother bought them some shoes.

Can you draw a picture of the shoes? Put a girl beside each pair of shoes so we shall know to whom the shoes belong.

6. Play you are going on a trip. Pack your things, shake hands, take your bag, and go.

7. "This wonderful dog

Was Dame Hubbard's delight;

He could sing, he could dance;

He could read, he could write."

How many things could Dame Hubbard's dog do?

By the end of the semester the children should be able to read orally at sight with correct emphasis and adequate expression, primer material.

Z GROUP

Before taking up the work of this grade, a thorough review of work of the previous grade should be undertaken, as children of this type are prone to

forget. It is important for the teacher to know definitely what foundation the children have.

1. Ability to generalize from known words the following endings: *ing*, *er*, *est*, *y*, and apply this knowledge in making out new words.

2. Ability to use knowledge of consonant sounds, endings, and riming independently in making out new words by comparing them with known words which have similar elements.

3. Read intensively one primer not previously read.

4. Read one first reader intensively.

5. Read at least one supplementary primer.

Be able to read silently and comprehend material of at least this degree of difficulty — Comprehension evidenced by ability to follow directions indicated in each separate type following.

6. Jack and Jill are going up the hill to get water.

Jack has a pail.

Can you draw this picture?

7. Run to the window and tell us what you see.

8. The little birds flew from his back.

"Thank you, Mr. Crane," they said,

"Thank you for carrying us to the land of summer."

What did the little birds say to Mr. Crane for taking them where they wished to go?

Ability to read without audible lip movement. Slight degree of ability to fuse words into phrases.

The actual task that faces the classroom teacher in making the day-to-day adjustments appears larger from our lengthy discussion than it proves to be in practice. Let us consider the task that faces the teacher of the fifth-grade class we have discussed. The assignment for the arithmetic period has to do with practice on long division. From the nature of the topic, the five pupils in Table 22 who are marked 6 in arithmetic computation will be excused from work on this unit. These pupils are automatically given this time to spend on other lessons or upon their special individual work. Those marked 7 will come to the class with preparation on a minimum number of problems, while the one marked 0 will come prepared on more than the normal number of problems. Those marked 9 will come prepared on

the simpler of the long-division problems assigned. The work during the class period will go on in normal fashion, however. The only difference from the class handled without consideration of individual differences will be that the actual number in the class is smaller, and there will be some likelihood that the group will be better prepared for the work of the class period than would be the case if a single assignment had been given for all. Those who have needed more drill to reach standard have had more drill. Those who have needed less drill have not been pushed ahead of the group by receiving the same amount of drill as the other pupils.

In spite of all our discussion, then, the actual instruction in arithmetic is easier than under traditional conditions. It is true that the teacher needs to be alert to the adjustment expected for each pupil in making the assignments for the next day. He soon, however, becomes familiar with the needs of individuals so that it is not necessary for him to refer to his chart to discover which pupils are expected to receive each particular type of adjustment. As time goes on, he discovers places where the original analysis of the needs of the pupil is in error. He corrects these errors in the analysis in the light of his experience much sooner than he would discover the need of adjustment under ordinary conditions.

The above discussion assumes the traditional classroom procedure. The work of assignment is somewhat simplified if individual-instruction materials based on the testing technique are used in drill subjects. This technique has the following steps:

1. Give a test covering the next unit of material to be covered.
2. Excuse from class instruction the pupils that pass the test satisfactorily.
3. Instruct pupils needing instruction.
4. Assign ample drill materials. Give the pupils a copy of the original test, together with a copy of the proper answers.
5. Assign the pupil responsibility for discovering when he can pass the test satisfactorily.

6. Give such pupils a similar test at a period set aside for this purpose. This may well be in the beginning of the class period the following day.

This technique automatically makes adjustments and assignments in drill materials that fall in Table 22 under the symbols 0, 6, and 7. To care for those adjustments indicated by the symbol 9, it is necessary to have the test carry starred problems, the missing of which should not count against pupils who are assigned the symbol 9.

Discussion of any other subject would lead to a similar conclusion that the introduction of the day-to-day adjustments does not complicate unduly the actual work during the school day. It adds to the amount of time taken in the planning of lessons and gathering together of materials.

The teacher, of course, needs some time for checking up on the individual work which pupils are doing. For this purpose what might be thought of as study periods should be set aside for such individual attention. Two half-hour periods during the day set aside for the inspection of individual work, checking up on progress of individuals, and helping pupils over difficulties in both individual and class work, make possible a smooth running of the necessary individual adjustments as well as an improvement of study habits of pupils. These are periods of guidance, test, and individual help. The new individual assignments prepared for pupils are given in these periods, and much of the plan for the next day evolves from what develops in these periods.

Nature of the Demands upon Classroom Instruction in the Junior and Senior High Schools

The problem in traditional schools. — The problems that are characteristic of the elementary school continue through high school. The list of adjustments necessary, as given for elementary pupils on pages 217-218, can with minor changes be applied

to pupils in junior and senior high schools. There are similar problems of correcting deficiencies, adjusting to low ability, and making adjustments required by unusual proficiency.

The discussion in the preceding section of this chapter therefore applies until the magnitude of certain adjustments demanded becomes so great that the only hope of providing them is by a change in the school organization that will take the burden from the shoulders of the classroom teachers. In the traditional schools, attempt to care for these adjustments by administrative measures is not made until the first high-school year, if at all. In the junior high schools, relief comes to the classroom teacher with the offering of elective broadening courses in the seventh grade, and with the introduction of variation in curricula coupled with elective opportunities within each curriculum in the eighth grade. The discussion of the preceding section applies therefore to the seventh and eighth grades, at least, in a traditional school. It applies to these grades as well if the work of these grades is departmentalized, providing no variation in pupil programs is promoted by use of electives. Adjustment is made easier to the extent that departmentalization makes possible the use of the same adjustment materials with different classes, and to the extent that specialization of teachers facilitates bringing in more adjustment materials. With these minor differences the discussion of the preceding section of this chapter applies to the seventh and eighth grades in a departmentalized school with a single curriculum, and to all of the grades of a high school offering a single curriculum and few or no electives. It should be said, however, that the problem of varying the programs of pupils to suit their needs is entirely beyond any satisfactory solution without the administrative aids of varied courses and freedom of selection for the development of individual programs.

Table 23 summarizes the analysis of a seventh-grade class in a small traditional school that has but 150 pupils in all eight

TABLE 23

SUMMARY OF ADJUSTMENTS PROPOSED FOR PUPILS RECOMMENDED FOR A SEVENTH-GRADE CLASS IN A SCHOOL HAVING AN ENROLLMENT OF 150 IN GRADES 1 THROUGH 8

NEXT YEAR'S PUPILS	READING					ARITHMETIC		SPELLING	LANGUAGE USAGE	HISTORY	GEOGRAPHY	LITERATURE	OTHER ATTENTION
	In General	General Significance	Predict Outcomes	Understand Directions	Note Details	Computation	Reasoning						
1						9* 2*			9*		2*		
2		6	6	6	6		3	6	6				
3	3						6						
4													b*
5		6	6	6					9*	4	4	4	8*
6										4	4	4	7*
7	1*					6				4	4	4	7*
8													
9		6	6			9				4	4	4	
10													a* o*
11													
12						6			6				d*
13						3	3, 4	3		4	4	4	e*
14		6	6		6	9*		6	9*				
15						9*	4	1	9*	7, 4	4	4	c*
16						6							
17		6	6	6	6	5			5	5	5	5	
18			6			9*				4	4	4	
19			6	6		5	5	5	5	5	5	5	
20						5	5	5	5	5	5	5	c*
21						5	5	5	5	5	5	5	
22						5	5	5	5	5	5	5	
23		6	6			9*			6				
24						9*	6			4	4	4	
25						9*			9*	4	4	4	8*

* Those starred demand attention only once or at intervals. All others must be cared for in the day-to-day work.

1. To be omitted this term.
2. Minimum assignments on novel aspects of work omitted because of skipping a preceding grade or failing the subject the preceding term.
3. Minimum assignments given because of unusual ability in this subject. Normal mastery expected.
4. Enrichment of assignments. More and different applications made, new materials brought in, or new methods of attack used.
5. Simple assignments and lower standards (in the sense of extent — not mastery).
6. Extra drill.
7. Individual project of considerable extent needed, this field suggested.
8. Private lessons or individual lessons at public expense proposed in such fields as music and foreign language as substitute for individual project.
9. All but novel aspects of work omitted.
 - a. Give individual test.
 - b. Arouse interest in school work.
 - c. Watch health.
 - d. Develop leadership.
 - e. Correct speech defect.
 - o. Develop special course because of low ability.

grades. The plan used in making this summary is the same as that used for Table 22, but numbers are used in the place of names of pupils. An analysis similar to this was made for each grade. This table and the corresponding analysis for the eighth grade served as a basis for the teaching schedules of the principal, who teaches half time, and two other teachers, who do departmentalized work in the seventh and eighth grades as well as special work in the lower grades.

The actual problem of instructing these pupils is one that demands careful planning. As has been proposed earlier in the chapter, if the individual projects introduced for enriching the programs of exceptionally bright pupils are planned in large units, they will take a minimum of attention from day to day. In history, geography, and literature, three types of assignments must be developed from day to day. When the class is working on arithmetic computation or language, certain members of the class will continue on their special projects or their other study. The assignments planned on reasoning problems in arithmetic will need to provide for four types of needs. There are nine pupils who will need individual attention on reasoning in arithmetic: one who will need fewer exercises to master a particular principle, two who will need more exercises, four who will need to omit the more difficult aspects of the work, one who should have a modified application of the principles when this is possible, and one (pupil No. 13) who will not only need fewer exercises to master a particular principle but also should have a modified application of the principles. Special drill groups will be needed in each of the four types of interpretative reading.

The problem in modern junior or senior high schools. — To the degree that a school has introduced a wide choice of subjects and follows the policy of developing a separate program for each individual according to his needs, it relieves the classroom teacher of the task of attempting to care for several of the adjustments given in the list on pages 217-218. Of this list, each of the

following is entirely or almost entirely cared for. The numbering is that used in the list on pages 217-218.

Correction of Deficiencies.

1. Make-up work required by skipping.
3. Assignment of activities to correct deficiencies in home training or social background.
4. Assignment of activities to correct deficiencies in social habits.
5. Attention to the correction of physical or health defects.

Adjustment to Low Ability.

8. Making simpler assignments and setting less extensive standards for mastery. (Partly eliminated.)

Adjustment to Proficient Pupils.

9. Omission of subjects.
10. Omission of units of subject matter. (Partly eliminated.)
11. Omission of all but new aspects of subjects.
12. Minimum amount of drill assigned and minimum amount of time allowed when able pupils are not expected to exceed standards for pupils of average ability. (Partly eliminated.)
13. Enrichment of the programs of individuals by adding activities or subjects outside of the regular curriculum.
15. Enrichment of the programs of individuals by adding new subject matter in the ordinary subjects. (Partly eliminated.)

To the original group, on the other hand, it is necessary to add the adjustment to which reference is made in the discussion of failure and repeating — the adjustment of a course to suit differences in the purpose of that course in the educational programs of pupils.

The revision of the elementary-school list as it applies to Grade 8 and above in well-organized junior and senior high schools is as follows:

Correction of Deficiencies.

1. Make-up work required by failure or deficiency in one or more subjects or units of subjects (including elementary tool subjects).
2. Consideration of ability to comprehend in assigning reading in informational subjects, and setting assignments in such a manner as to correct deficiencies in reading abilities.

Adjustment to Low Ability.

3. Assignment of extra drill.
4. Making simpler assignments and setting less extensive standards for mastery.

Adjustment to Proficient Pupils.

6. Omission of units of subject matter.
7. Minimum amount of drill assigned and a minimum amount of time allowed when able pupils are not expected to exceed standards set for pupils of average ability.
8. Enrichment of the programs of individuals by increasing the number and variety of applications of principles involved, or by varying the method of attack.
9. Enrichment of the programs of individuals by adding new subject matter in the ordinary subjects.

Adjustment to Educational Plans.

10. Differences in purpose of a given course for pupils having markedly different educational programs.

In the planning of each pupil's entire program, all of these points must be taken into consideration. If this has been done, the class teacher may expect information as to the needs of pupils to be made available at the beginning of the term. In the consideration of the problem of failure and repeating, definite information should be available concerning pupils who need make-up work. Knowledge as to deficiencies in tool subjects should be available from the results of standard tests on reading, arithmetic, language usage, and composition. If the planning of a pupil's program calls for lower standards in a given subject, or the pursuit of a course for an uncommon purpose, the fact should be passed on to the teacher concerned. If it is planned to have a proficient pupil meet only average standards with a minimum of time spent upon the subject, or to have him meet different standards by receiving assignments that will require different adaptations of principles or delving into new subject matter, this must likewise be passed on to the teacher concerned.

Whether a pupil needs to be assigned extra drill, or needs different types of reading assignments, is dependent upon his intelligence or ability in the given subject in the one case, and upon his mastery of reading techniques in the other. Whatever information along this line is available, such as marks from previous teachers, I. Q., or mental age, should be readily available to the class teacher. He will need to supplement such information by the frequent use of diagnostic tests which will bring out deficiencies in the assignment of work from day to day and serve as a basis for adjusting the work to the needs of individuals.

In summary, the high-school classroom teacher should expect to find recorded upon the program of each pupil who comes to him a definition of some of the individual adjustments he will be expected to make for that pupil. In addition, he should expect to find the record of tests in tool subjects for use in determining other adjustments. If, as is often the case, the pupil has a part in the process of getting his program to his various teachers, the recommendations and information can be recorded in symbols unintelligible to the pupil. Upon the basis of such information the classroom teacher can intelligently plan his work. He can then supplement this information by use of diagnostic tests, either of the standard variety or of his own construction.

Given these facts about individual pupils, the work of the high-school teacher in making adjustments is similar to that of the elementary teacher in making the day-to-day adjustments in a similar subject. The adjustments in algebra, for example, are comparable to the adjustments the fifth-grade teacher must make in arithmetic, and may be dealt with in a manner similar to that discussed on pages 235 and 236.

There are pupils who need more extensive drill to obtain a given result, due either to low ability or to a deficient mastery of previous work. There are other pupils whose plans require that the time spent upon the mastery of the subject shall be

less than that of the average pupil, so that they will have more time for some aspect of their work that to them is of greater importance than the superior mastery of the subject under consideration. There will be others who, although exceptionally capable, are depending for the adjustment of their entire program to their superior ability upon marked enrichment of the particular course under consideration. The last mentioned group will make exceptional demands upon the teacher.

For the most part, such adjustments will be cared for through differentiation of assignments. Some pupils will be assigned more drill materials, or, in the case of a content subject, simpler and less extensive reading. Some pupils will be assigned less than the normal amount of drill material. Some pupils will be assigned special projects that may take the place of regular assignments over a considerable period of time, or more difficult and more extensive reading upon the subjects that are before the class for discussion.

In the tool subjects such as mathematics and the languages, materials are coming on the market that assist the teacher in the adjusting of drill material to the needs of individuals. For example, Illustration 14 shows a page from a book of exercises and tests in algebra. The book gives two tests of equal difficulty upon each topic. This particular book serves more the purpose of bringing up deficiencies than that of enriching the course. But it introduces the self-administering idea that is being found so helpful in the elementary school.

All the techniques discussed earlier in this chapter for developing self-administering materials can be used in the enrichment of high-school courses as well as in the adjustment of drill materials. In some respects, the development of self-administering tests for enrichment material in high-school courses is easier than in elementary-school courses, since the field of each teacher tends to be narrowed down to a single subject.

ILLUSTRATION 14

A PAGE FROM A BOOK OF INDIVIDUAL MATERIALS IN ALGEBRA¹
(Reduced in Size)

TEST NO. 74	
NAME _____	DATE _____
CHECKED BY _____	RIGHTS _____

SQUARES OF BINOMIALS

Time: 5 min.

Perform the following indicated operations, writing the results after the signs of equality:

- | | | |
|-------------------|-----------------------------|-------------------------------|
| 1. $(p + q)^2 =$ | 11. $(3 - x)^2 =$ | 21. $(3m + 1)^2 =$ |
| 2. $(p - q)^2 =$ | 12. $(a + 4)^2 =$ | 22. $(3m - 1)^2 =$ |
| 3. $(x + 1)^2 =$ | 13. $(a - 4)^2 =$ | 23. $(1 - 3m)^2 =$ |
| 4. $(x - 1)^2 =$ | 14. $(a + \frac{1}{2})^2 =$ | 24. $(a^2 + 1)^2 =$ |
| 5. $(1 - x)^2 =$ | 15. $(a - 0.5)^2 =$ | 25. $(a^2 + b)^2 =$ |
| 6. $(x + 2)^2 =$ | 16. $(2a + 1)^2 =$ | 26. $(a^2 - b^2)^2 =$ |
| 7. $(x - 2)^2 =$ | 17. $(2a - 1)^2 =$ | 27. $(2a^2 + b)^2 =$ |
| 8. $(2 - x)^2 =$ | 18. $(1 - 2a)^2 =$ | 28. $(2b^2 - a)^2 =$ |
| 9. $(x + 3)^2 =$ | 19. $(a - 2b)^2 =$ | 29. $(2b^2 - 3a)^2 =$ |
| 10. $(3 + x)^2 =$ | 20. $(2b - a)^2 =$ | 30. $(2a + \frac{1}{2}b)^2 =$ |

After the rights have been checked, do over in the space below any exercise in which your result was found to be incorrect, so that you can find the source of your error.

¹ From Smith, D. E., Reeve, W. D., and Morss, E. L., *Exercises and Tests in Algebra*. Ginn and Company, 1926. By permission of the publishers.

PROBLEM 17

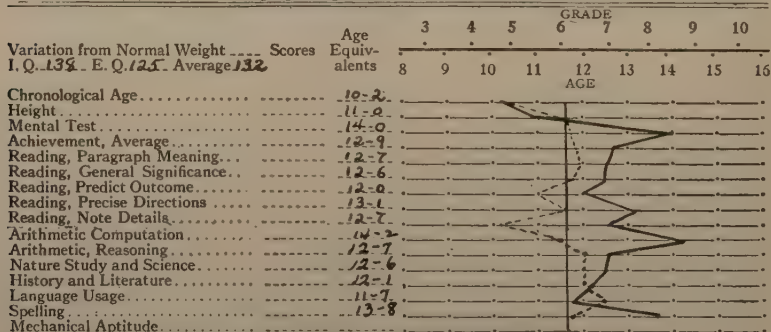
THE ANALYSIS OF INDIVIDUAL NEEDS

Every teacher should develop proficiency in interpreting test results and other data as they have to do with the needs of his pupils.

The following five pupils present interesting instructional problems:

1. Girl, Grade Six, Annual-Promotion School

Entrance grade in this school system..... Entrance grade in this school.....
 Grades skipped 3rd..... Grades repeated none..... Half years spent in kindergarten.....
 Does pupil expect to go to high school? yes..... College? yes.....
 What does he want to do when he finishes school? Teacher.....
 Does he take music lessons outside of school? yes..... Other lessons, if any, outside of school?.....
Dancing..... Member of the following school teams or other organizations:.....
 Outside organizations: Sunshine Club.....
 What musical instruments? Piano.....
 What magazine does he read most?..... How is out-of-school time spent? Playing,
Reading, helping mother..... Is there a room in the home where he can study by himself?.....
 What kind of music does he like best?..... Has he a card for the public library? yes..... Times each week spent at the movies?..... What language is spoken in the home? English..... How many books in the home? many.....
 Specific Weaknesses.....
 Physical Defects.....
 Too mature socially for this group?..... Too immature?..... Does the program of this pupil vary from that of the class as a whole in any manner?.....
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success).....
 Variations from section program at any time in past (give grade, type of section, and nature of variation).....
 Any other irregular features in this pupil's school history.....
 Enrollment in this class 15..... Type of class.....
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability..... 5. Leadership..... 9. Freehand Drawing A..... 13. Spelling A.....
 2. Mechanical Ability..... 6. Reading..... A..... 10. Arithmetic..... A..... 14. Music..... A.....
 3. Attitude toward Work..... 7. Nature Study & Science..... A..... 11. History..... A..... 15. Shop Work.....
 4. Health..... 8. Language Usage..... A..... 12. Literature.....



Pupil's Record.....Record of Class to which assigned.

2. Boy, Grade Five High, Semiannual-Promotion School

[illegible]

3. Boy, Grade Five High, Semiannual-Promotion School

Pupil..... Date 1/4/27 Grade 5' Boy ☒ Girl ☐

Address..... Tel. No..... Home Room..... Parent.....

School..... Teacher.....

Date of Birth 4/20/1916 Height 53" Weight 70

Entrance grade in this school system..... Entrance grade in this school.....

Grades skipped 2nd Grades repeated 0 Half years spent in kindergarten.....

Does pupil expect to go to high school? Yes College? Yes

What does he want to do when he finishes school? Roadman

Does he take music lessons outside of school? No Other lessons, if any, outside of school? No

Member of the following school teams or other organizations:.....

Football Outside organizations: Y. M. C. A.

What musical instruments? Piano

What magazine does he read most? N. Geographic How is out-of-school time spent? playing

ball - hunting - helping mother Is there a room in the home where he can study by himself? Yes

What kind of music does he like best? Piano Has he a card for the public library? No

Times each week spent at the movies? 1 What language is spoken in the home? English

How many books in the home? 30

Specific Weaknesses.....

Physical Defects Teeth

Too mature socially for this group?..... Too immature?..... Does the program of this pupil vary from that of the class as a whole in any manner? Yes

Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) No

Variations from section program at any time in past (give grade, type of section, and nature of variation)

Any other irregular features in this pupil's school history.....

Enrollment in this class 18 Type of class Below average

Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

1. General Ability..... 5. Leadership..... 9. Freehand Drawing B 13. Spelling B

2. Mechanical Ability..... 6. Reading B+ 10. Arithmetic B+ 14. Music.....

3. Attitude toward Work..... 7. Nature Study & Science B 11. History..... 15. Shop Work.....

4. Health..... 8. Language Usage B- 12. Literature.....

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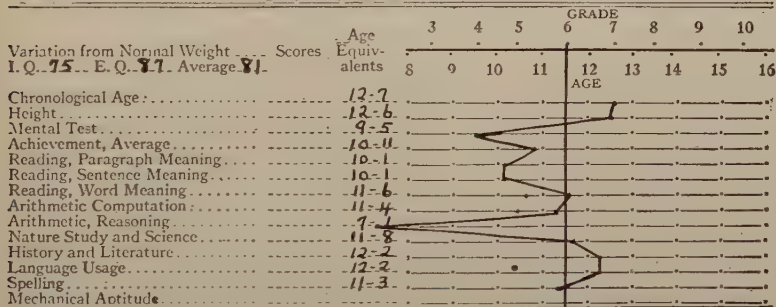
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4. Girl, Grade Six, Annual-Promotion School

Entrance grade in this school system... 3rd Entrance grade in this school... 3rd
 Grades skipped... None Grades repeated... 3rd and 4th Half years spent in kindergarten... None Does pupil expect to go to high school?... no College?... no
 What does he want to do when he finishes school?... Telephone operator
 Does he take music lessons outside of school?... no Other lessons, if any, outside of school?...
Sunday School Member of the following school teams or other organizations:.....
none Outside organizations:..... none
 What musical instruments?... none
 What magazine does he read most?... None How is out-of-school time spent?... study
assists mother Is there a room in the home where he can study by himself?... Yes What kind of music does he like best?... orchestra Has he a card for the public library?... no Times each week spent at the movies?... 0 What language is spoken in the home?... English How many books in the home?... 75
 Specific Weaknesses.....
 Physical Defects.....
 Too mature socially for this group?... no Too immature?... no Does the program of this pupil vary from that of the class as a whole in any manner?... no
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success)... no
 Variations from section program at any time in past (give grade, type of section, and nature of variation).....
none
 Any other irregular features in this pupil's school history.....

Enrollment in this class..... Type of class... normal
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability 5. Leadership 9. Freehand Drawing C 13. Spelling B
 2. Mechanical Ability 6. Reading B 10. Arithmetic C 14. Music B
 3. Attitude toward Work 7. Nature Study & Science B 11. History C 15. Shop Work.....
 4. Health 8. Language Usage B 12. Literature C

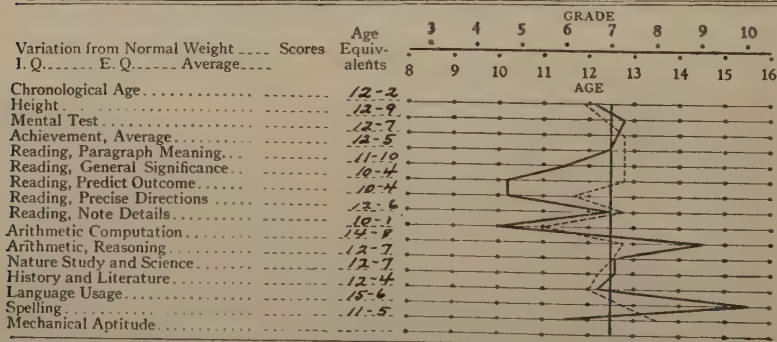


Pupil's Record..... Record of Section to which assigned.
 Use vertical line to represent grade standard.

5. Boy, Grade Seven, Annual-Promotion School

Entrance grade in this school system 4 Entrance grade in this school 4
 Grades skipped _____ Grades repeated _____ Half years spent in kindergarten _____
 Does pupil expect to go to high school? yes College? yes
 What does he want to do when he finishes school? Mechanical Engineer
 Does he take music lessons outside of school? _____ Other lessons, if any, outside of school? _____
Dancing Member of the following school teams or other organizations: _____
 Outside organizations: Boy Scouts
 What musical instruments? _____
 What magazine does he read most? Boy's Life How is out-of-school time spent? Playing, Reading, helping father
 Is there a room in the home where he can study by himself? yes What kind of music does he like best? Jazz Has he a card for the public library? yes Times each week spent at the movies? 4 or 5 What language is spoken in the home? English How many books in the home? many
 Specific Weaknesses _____
 Physical Defects _____
 Too mature socially for this group? _____ Too immature? _____ Does the program of this pupil vary from that of the class as a whole in any manner? _____
 Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success) _____
 Variations from section program at any time in past (give grade, type of section, and nature of variation) _____
 Any other irregular features in this pupil's school history _____

Enrollment in this class 25 Type of class _____
 Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:
 1. General Ability _____ 5. Leadership B 9. Freehand Drawing B 13. Spelling B
 2. Mechanical Ability _____ 6. Reading _____ 10. Arithmetic _____ 14. Music B
 3. Attitude toward Work _____ 7. Nature Study & Science A 11. History A 15. Shop Work _____
 4. Health _____ 8. Language Usage B 12. Literature _____



Pupil's Record _____ Record of Section to which assigned.
 Use vertical line to represent grade standard.

In several instances the teachers of these pupils (pages 246-250), unaided by any attempt to gather pertinent facts about them, were entirely oblivious to the special problems that these pupils presented.

Assignment: Describe the individual needs of each of the five pupils whose records are shown on pages 246-250. The following more or less arbitrary rules may be used:

a. Allow a variation of six months in achievement average before suggesting any adjustment of a marked character.

b. Allow a variation of a year in an individual subject before suggesting any adjustment of a marked character.

c. Allow a variation of five to eight points in I. Q. or E. Q. before suggesting any adjustment of a marked character.

d. A variation of five points in I. Q. is roughly equal to a variation of a half year in achievement average. For example, a pupil who is five points ahead of the class average in I. Q. but a half year behind the class in achievement, should have a normal program. A pupil six months ahead of his class in average achievement and five points ahead of his class in I. Q. may be expected to carry twice as much extra school work and outside activities as the pupil who is average in ability and six months ahead of his class in achievement, or the pupil who is average in achievement but five points ahead of his class in I. Q.

e. A pupil a year and a half above standard in a drill subject such as spelling, arithmetic computation, or language usage, may well be permitted to discontinue work in such a subject, or to take only the new aspects of the work for a year. In schools having semiannual promotions the margin for such release may well be a year instead of a year and a half.

PROBLEM 18

GROUPING WITHIN THE CLASS AS A METHOD OF ADAPTING INSTRUCTION TO INDIVIDUAL NEEDS

To what degree can the adjustment of instruction to individual needs be brought about by grouping within the class?

One of the most common attempts to adapt instruction to individual needs is the grouping within the class. There are few schools that do not have at least one teacher using this device, and there are few schools in which all the teachers use this device. The number of groups varies from two to six, and the method varies from the plan of having a given group together in all their work, to the shifting-group plan described on the following pages.

A teacher of a high-sixth grade used a group method with his class. He sectioned them into four groups according to ability. The four groups did not have the same pupils in each group, as the pupils varied in ability from subject to subject. One pupil was in Group 2 in arithmetic, Group 4 in reading, Group 3 in history, and Group 1 in geography. The following table illustrates the grouping of five pupils in this room. There was nothing static about this grouping. As soon as a pupil was able to do better work in a higher or lower group he was shifted.

METHOD OF SECTIONING A CLASS USED BY A SIXTH-GRADE TEACHER

PUPIL	ARITHMETIC GROUP	READING GROUP	HISTORY GROUP	GEOGRAPHY GROUP
X	1	1	1	1
Y	2	1	3	4
Z	3	3	4	4
W	1	2	2	2
V	2	4	3	3

His plan in arithmetic was as follows: The subject was commission and percentage. The objectives for the four groups were:

Group 1 — to increase familiarity with problems in profit and loss.

Group 2 — to drill on problems in commission.

Group 3 — to introduce the subject of commission.

Group 4 — to drill on fractional equivalents and their use in everyday examples.

Assignments for Groups 1 and 2 were on the blackboard. The pupils took their group seats and commenced work with no directions from the teacher. Group 4 passed to the blackboard with slips of paper on which were written common fractions. These were to be copied and converted into percentage equivalents. The pupils in Group 3 were then introduced to the subject of commission by means of questions relating to their own experiences. Simple mental problems were worked. This

group then solved more difficult problems at the board. While Groups 3 and 4 were solving problems at the board, the work of Groups 1 and 2 was checked.

The plan for history was as follows: The lesson unit for the week was the Crusades. The pupils' own textbook had been studied and reported on at the first lesson of the unit. Special topics and reports were assigned by groups. The plan of the lesson was to obtain, through reports and group discussion, a clear idea of that great religious movement. Groups met with their chairmen, who had been elected for their executive ability. These leaders opened the discussion with questions, then reports were given and topics discussed. Questions which could not be answered in the groups were taken down and discussed during the next meeting of the class as a whole. The time of the teacher was spent for the most part with the group slowest to respond. At the end of thirty minutes the class came together as a whole for the next assignment.

The teacher conducted geography and language lessons in much the same manner. For the introduction and presentation of a topic, also the summing up after the discussions, the entire class was in the teacher's charge. During the discussion of the topic as a whole, the class worked as a single group, each member of the group contributing according to his ability.

Assignment: 1. How would this plan of sectioning adapt itself to meeting the needs of the pupils shown in Table 22, pages 200-201, so far as arithmetic is concerned? In the study of history?

2. Which adjustments listed in the summary, pages 217-218, will not be met by this plan?

3. Compare this plan of instruction with the single-group plan with varied assignments and supplementary individual work, presented in the text of this chapter (pages 218-237), as to (1) probable effectiveness, (2) amount of work for the teacher.

4. How does this attempt to break a class up into teaching units compare with the attempt in the one-room rural schools and small high schools to combine groups for instructional purposes?

PROBLEM 19

GROUP PROJECTS AS A METHOD OF ADAPTING INSTRUCTION TO
INDIVIDUAL NEEDS

The failure of traditional classroom methods of instruction, even when assisted by ability grouping, to make adequate provisions for individual boys and girls, has been the cause of many attempts to adjust methods of instruction.

The teacher of a high-fifth-grade class carried out a project in reading called "A Visit to Bookland." In place of the traditional reading lesson of so many pages in a textbook, the pupils were permitted to select a book of their choice from a selected list. The pupils read such books as *Bunny Brown and his Sister Sue*, *Heidi*, *King of the Golden River*, *Peter Pan*, *Dutch Twins*, *An Old-Fashioned Girl*, *Pollyanna*, along with *Swiss Family Robinson*, *Robin Hood*, *Scouting on Lake Champlain*, *Treasure Island*, and *Robinson Crusoe*. After the books were read, the pupils wrote a clever three-act play entitled, *A Visit to Bookland*. The setting and ending formed a composite of the best work and suggestions of the entire class. The characters of the play, except the three main ones who carried the plot along, were characters from the books read, to be impersonated by the members of the class. After the play was written and revised, it was presented to the entire school in the auditorium. Each character designed his own costume, as there was opportunity enough in this play to tax the most fantastic of tastes and talents, from the designing of the costume of the King of the Golden River, to Robinson Crusoe's man Friday. The most romantic interests could be captivated by *Scouting on Lake Champlain*, while the more sedate small girl could dream through *An Old-Fashioned Girl*. There were a variety of abilities to be utilized: the play writer, the stage manager, the dramatic reader, the costume designer, the curtain raiser, and the business manager had an opportunity to show their best talents.

Assignment: 1. How could this project in reading be utilized to make the adjustments of the type that requires occasional planning?

2. How could it contribute to the meeting of the day-to-day adjustments that are needed?

3. Indicate to what degree the use of this method would care for the individual adjustments listed in the summary, pages 217-218.

4. Is the chief purpose of the project method to adapt instruction to individual needs or to contribute to common needs of the entire group?

PROBLEM 20

METHODS OF MEETING INDIVIDUAL NEEDS

There are a great many devices that are used to meet individual needs. Which contribute sufficiently to merit use?

The following is a list of individual adjustments reported by the elementary and high-school teachers of a large city:

1. Individual assignments.
2. Special attention in class period.
3. Chance to ask questions in class.
4. Suggestions beyond assignments.
5. Kept after school to do extra work of some degree of difficulty.
6. Special attention in supervised study.
7. Attempt to interest by special talks.
8. Called on for frequent recitations.
9. Do extra work and explain to slow pupils.
10. Extra work to make up for absence or transfer.
11. Extra work outside of class.
12. More advanced work from another text.
13. Special attention in class period.
14. Conference with parents.
15. Excused from theme work.
16. Rewrite themes two or more times.
17. Revision of written work.
18. Copy misspelled words.
19. Frequent recitations.
20. Privilege of choosing subject for special report.
21. Special drill on the mechanics of English, other than class period.
22. Adjust questions to child's nature.
23. Teacher attention in written work.
24. Requirements lessened.

25. Choice in theme subject.
26. Written record of errors.
27. Care in questioning.
28. Teacher aid in word selection in composition.
29. Teacher assistance on book reports.
30. Repeat course.
31. Extra dramatic play work.
32. Special study and reports.
33. Omission of home work.
34. Critical study of poetry with the teacher after school.
35. Class in mechanics after school.
36. Themes used as an example to a class.
37. Write extra themes.
38. Decrease amount of work.
39. More advanced work.
40. Use pupil to demonstrate games.
41. Student made leader of class.
42. Have student teach games to others.
43. Constant watching on the part of the teacher.
44. Students used as leaders in games.
45. Students permitted to enter into group games only.
46. Oral report instead of written.
47. Choose own books to read.
48. Excused from oral recitation.
49. Bright student not called on frequently.
50. Student given book different from that used by his class.
51. Use students to do odd jobs.
52. Give easier reading.
53. Teacher forcing child to read.
54. Use of play period to make up reading.
55. Teacher reads to the students.
56. Teacher reads just the selections the students like.
57. Bright students help develop projects.
58. Bright pupils assist teacher.
59. Bright pupils assist slower pupils.
60. Bright pupils used as monitors.
61. Extra time given on certain subjects.
62. Bright pupils given hardest tasks; most difficult problems.
63. Permission to take the textbook home for night study.
64. Certain students given front seats.

65. Bright pupils choose their own problems to work on.
66. English given twice daily.
67. Child sent to detention room.
68. Called on very seldom to recite orally.
69. Demoted.
70. Made president of club.
71. Criticize other pupils.
72. Works out the songs to teach others.
73. Good singers used as leaders of groups.
74. Monotones and slow singers used only in group work.
75. Special drill given to monotones.
76. Seating of students according to ability to sing.
77. Drills in ear training.
78. Solo work for class demonstration.
79. Given difficult songs and sections.
80. Mediocre singers given especially attractive work.
81. Absolute monotones given only appreciation work.
82. Gather extra material.
83. Leaders in projects.
84. Bright students given especial assignments.
85. Given the more difficult parts of the assignments.

Assignment: 1. Using the list of adjustments on pages 217-218, indicate adjustments toward which each of these devices would make a contribution on the grade level in which you are most interested. If you believe the contribution is such that few or no cases of adjustment of a given type will be overlooked if the device is used, indicate that fact.

PROBLEM 21

VARIATION IN A CLASS PROGRAM DEMANDED BY CLASS ACHIEVEMENT

Frequently, due to unusual success or failure of previous teachers, a pupil is found to be much more highly developed in one subject than in another. This demands attention when the teacher's schedule is being made.

The dotted line in the profile of Pupil 1 in Problem 17 (page 246) shows the average achievement of her class.

Assignment: 1. What changes from the normal program should be made in scheduling the work of this class?

2. Would this class as a whole be able to carry an enriched program?

3. To what degree would the adjustments you are suggesting for the class as a whole meet the needs of Pupil 1?

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CHAPTER VII

SUMMARY OF THE ADJUSTMENTS DISCUSSED IN THE PRECEDING CHAPTERS

ADJUSTMENTS to individual needs have been discussed in the preceding chapters largely from the standpoint of individual teachers. The purpose has been to show the problems that are faced in the traditional school or in the school modified only by the introduction of modern junior-high-school and senior-high-school organizations. Many teachers to-day are facing these problems unaided.

Recently, a study¹ was made of the activities along these lines in 654 elementary schools, the principals of which were members of the Department of Elementary School Principals of the National Education Association. It was indicated that while teachers in most schools are aided in one or more ways by administrative adjustments of one kind or another, they must depend largely upon their own resources in the task of adjusting schools to the needs of individuals. If group intelligence tests, or standard educational tests, are given in a third of these schools, it is by the teacher, unaided. In two thirds of these schools, the teacher of a class is not assisted in assigning the placement of pupils at the end of a term. In a third of these schools, there is no permanent record of the pupils' past school experience available. In three fourths of these schools, any information concerning the home and the social environment of the pupils must be collected upon the initiative of the teacher if it is to be available. In 80 per cent of these schools, the teacher is not

¹ Dyer, W. P., *Activities of the Elementary Principal for the Improvement of Instruction*. Bureau of Publications, Teachers College, Columbia University, 1927. Pages 59-70.

aided in making a systematic analysis of all the records pertaining to the classification of pupils.

In the actual meeting of needs, the situation is similar. In only 40 per cent of the schools is there an *opportunity* or *ungraded* room. In but 36 per cent of the schools are the overage boys and girls selected under the principal's direction and assigned to satisfactory work in junior high school. In 60 per cent of the schools, a plan is available for assigning pupils to a lower or a higher grade to receive instruction in subjects in which they are ahead of or behind the class.

Teachers are struggling valiantly to meet the needs of boys and girls in spite of the lack of adequate assistance in either defining the needs of boys and girls or in making adjustments required by the needs they discover. That their success is by no means negligible is indicated by such recognition as that given in the following editorial in the *New York Sun*:

The School of To-day

Cartoonists still picture school as a place of imprisonment for the young, with the teacher in the guise of an unsympathetic taskmaster sternly supervising the lockstep of learning. However justifiable such a presentation may have been in the past, it now is belied at every turn, and never more so than to-day when the city's army of school children are returning to their studies. SHAKESPEARE saw the schoolboy "creeping like snail, unwillingly" to his studies. Any one who paused to observe the throngs of happy youngsters to-day must have been impressed by the cheerfulness, even the eagerness, with which most of them approached the beginning of another semester of instruction.

It might repay parents to investigate the cause of this. They will find, to be sure, brighter school buildings, more play space, a greater diversity of activities and more interesting methods of instruction. But, more important, they will discover that the teacher of to-day looks upon her charges as a group of individuals rather than as an instructional unit which must go through a prescribed, uniform program. No physical director would require a weak, puny boy and his stronger, more muscular playmate to go through identical exercises. So the modern school recognizes that there are mental differences among children which necessitate different

adaptations of the course of study. What is an easy task for one child may well prove an impossible, heartbreaking assignment for another.

It is the effort to modify the school program in accordance with individual differences — even though the effort be not entirely successful — which as much as anything else tends to make the school of to-day pleasanter than was its predecessor of a generation ago.¹

Doubtless a great many of the problems will always remain teachers' problems. In spite of the valuable contributions that may be expected from scientific experimentation, there is little hope that any plan will automatically meet the entire range of individual needs. It will doubtless always be important for teachers to obtain some grasp of the whole task of individual adjustment that faces the school. If outside help fails them, they can at least keep from overlooking many important adjustments. If outside help relieves them of certain aspects of this important duty, they can all the better judge what remains for their own efforts. They can thereby avoid the ever-present danger that enthusiasm over a new plan of organization or a new method of instruction will blind them to the shortcomings of such a plan in the education of boys and girls.

In the chapters that follow, a number of administrative aids that have been tried or proposed are discussed. The purpose is to show the direction in which teachers can look for aid and to assist them in the task of appraising what remains to be done when such assistance is not provided them.

To facilitate the appraisal of any program for meeting individual needs, a summary of adjustments described in Chapters II to VI is given on pages 262-264. For each adjustment the grades or ages to which it applies are indicated; and the index (pages 377-378) shows the pages where it is discussed. This summary should be helpful in appraising the program of the classroom teacher for his own class, or an administrative program for assisting him in making adjustments.

¹ *The Sun*, New York, N. Y., September 12, 1927.

SUMMARY OF ADJUSTMENTS

ADJUSTMENT ¹	GRADES OR AGES TO WHICH IT APPLIES	HOW MADE UNDER ORDINARY CONDITIONS ²
<i>Adjustment to Low Ability</i>		
1. Assignment of extra drill	I-I2	A ²
2. Making simpler assignments and setting less extensive standards for mastery	I-8	A
3. Retardation	I-I2	B
4. Development of a markedly different curriculum	I-I2	B
<i>Adjustment to Unusual Proficiency in Ordinary School Work</i>		
5. Omission of subjects	I-8	B
6. Omission of units of subject matter	8-I2	A
7. Minimum amount of drill or study assigned and minimum amount of time allowed when able pupils are not expected to exceed standards set for average pupils	I-I2	A
8. Omission of all but new aspects of subjects	I-8	A
9. Enrichment of the programs of individuals by adding activities or subjects outside of the regular curriculum	K-I2	K-8, A 8-I2, B
10. Enrichment of the program of individuals by increasing the number and variety of applications of principles involved, or by varying the method of attack	K-I2	A
11. Enrichment of the programs of individuals by adding new subject matter in the ordinary subjects	K-I2	A
12. Acceleration	K-I2	B
<i>Adjustment to Special Disabilities in Ordinary School Work</i>		
13. Special attention	I-I2	A
14. Omission of subjects	8-I2	B

¹ See index, "Adjustments," pages 377-378, for pages where discussed in the text.² A. Adjustments which are ordinarily made by the class teacher as a part of his day-to-day work.

B. Adjustments made in the planning of the programs of pupils for a school term.

C. Adjustments made by outside authorities.

D. Case study.

SUMMARY OF ADJUSTMENTS — *Continued*

ADJUSTMENT	GRADES OR AGES TO WHICH IT APPLIES	HOW MADE UNDER ORDINARY CONDITIONS
<i>Adjustment to Health and Physical Defects</i>		
15. Correction by outside aid	K-12	C
16. Special attention and supervision	K-12	A
<i>Correction of Deficiencies in School Subjects</i>		
17. Make-up work necessitated by skip- ping	I-8	A
18. Make-up work or extra drill necessi- tated by failure or absence	I-12	A
19. Make-up work necessitated by defi- ciencies in tool subjects, training in which is no longer provided in the curriculum	7-12	A
20. Consideration of ability to do type of reading assigned in any subject and setting assignments in such a manner as to correct deficiencies	3-12	A
21. Repeating	I-12	B
<i>Adjustment to Special Abilities</i>		
22. Addition of subjects or activities outside of the regular curriculum	I-12	{ I-8, A 8-12, B
<i>Social Adjustments</i>		
23. Special promotion	I-7	B
24. Assignment of activities to correct deficiencies in home training or social background	I-12	{ I-8, A 8-12, B
25. Assignment of activities to correct de- ficiencies in social habits or attitudes	I-12	{ I-8, A 8-12, B
<i>Correction of Other Educational Deficiencies</i>		
26. The assignment of activities or sub- jects to correct deficiencies in impor- tant appreciations in the field of art	7-12	B
27. Attention to lack of development in character, attitude toward work, good work habits.	K-12	A, D
<i>Adjustment to Vocational Needs</i>		
28. Specific training	{ Final years	B
29. Supplementary training	8-12	B

SUMMARY OF ADJUSTMENTS — *Concluded*

ADJUSTMENT	GRADES OR AGES TO WHICH IT APPLIES	HOW MADE UNDER ORDINARY CONDITIONS
<i>Adjustment to Limited Stay in School</i>		
30. Vocational needs considered	{ Age 13 and over	B
31. Special programs in junior high school for overage pupils	1-6	B
32. Lessen emphasis on courses that have chief purpose in basis they give for training beyond what is expected of the pupil concerned	8-12	B
<i>College Preparation</i>		
33. Care to meet needs of college pupil expects to enter	8-12	B
<i>Adjustment to Educational Plans</i>		
34. Adjustment of purpose of a course to meet needs of pupils having markedly different educational pro- grams	8-12	A

ILLUSTRATION 15

A FOURTH-GRADE GROUP PRESENTING A WIDE RANGE OF ADJUSTMENT PROBLEMS



More than half these pupils are overage for their grade, one girl being of junior-high-school age. In ability, as shown by the mental and arithmetic tests, they vary only slightly. The range of reading age is from 5 years, 10 months, to 13 years, 8 months, and shows a need of individual assistance. There are three cases of speech defects and one of hearing which appear to be causes of poor work. This situation is not unusual.

PART III

ADMINISTRATIVE AIDS IN DISCOVERING AND MEETING THE NEEDS OF INDIVIDUAL PUPILS

CHAPTER VIII

SPECIAL SERVICES THAT AID IN DISCOVERING THE NEEDS OF PUPILS

THE inability of classroom teachers to be possessed of all the skills and information required for the adequate diagnosis of needs has led to the development of a variety of special services. Such terms as visiting teacher, vocational counselor, psychologist, psychiatrist, dean of girls, and director of research and guidance that have recently come into pedagogical vocabulary indicate some of the directions in which school administration is reaching out to assist teachers. These are titles given to specialists who contribute in one way or another to the diagnosis of the needs of individuals, and to the development of ways and means by which the burden of meeting certain types of individual needs may be lifted from classroom teachers. The purpose of this chapter is to discuss the contributions made by such special services.

Personal Services

The visiting teacher. — The visiting teacher is a worker trained in problems of educational and social adjustment. Her purpose is to provide an intelligent and understanding contact between the school and the home. Her duty is to visit the homes of children who for any reason are not doing satisfactory work in school, and to obtain coöperation from the home and an under-

standing of home conditions that may throw light upon the difficulties encountered. She frequently obtains information which has a bearing upon the placement of a pupil. A somewhat similar function is performed by the trained attendance officers in those school systems that are making the attendance department a real service department between the home and the school, rather than merely a bureau for enforcing compulsory attendance laws.

The dean of girls. — The dean of girls, as a specialist in school extracurricular activities and in the personal problems of girls, can often contribute to the planning of individual programs and the discovery of instructional needs, particularly of girls. In some school systems she is expected to perform some of the duties attacked by the vocational counselor which are discussed later in this chapter. Many of the recent writings on the work of the dean of girls recommend such extension of her field. Considering the importance of her primary duties, it is probably not advisable to expect the contribution of the dean of girls to the problems discussed in this book to be more than incidental.

The school psychologist. — The school psychologist is a product of the testing movement. When such an officer is connected with a department of research or vocational guidance, it is for the purpose of giving mental tests — particularly the individual intelligence tests — and of supervising the development of classes for mentally retarded pupils. Some school systems that do not have a department of research employ such an officer to perform the duties outlined above and one or more of the duties of the department of research.

Like the work of the school physician, the specialized work of the psychologist is indispensable. It is rare that a teacher is trained sufficiently to give the individual intelligence tests that are so essential before making momentous decisions based upon a pupil's mental ability.

Such service should be provided in small communities by the

coöperation of several small communities, or by the state department of education. In Massachusetts, a state clinic for the examination of overage pupils travels from community to community throughout the state. A somewhat similar service is provided in New York and Wyoming.

The vocational counselor. — The vocational counselor is a specialist employed in junior and senior high schools to assist teachers in the problem of planning the programs of individual pupils, in giving vocational advice to individual pupils, and in providing information upon occupations with respect to nature of work, training required, and the probable financial rewards. The duties of counselors in New York city have been summarized (by Mrs. Alice K. Pollitzer) as follows:

Under the direction of the counselor, pupils in classes fill in questionnaires showing something of the economic and social background of the family and of the aptitudes, interests, and ambitions of the child. The returns are kept by the counselor.

The counselors give talks on occupations in the seventh, eighth, and ninth grades, based on trade and occupational studies and on actual experience in the employment bureau, and including in simple terms the historical development of present industry, the functions of employers' associations and labor unions, and business and social ethics.

The counselors conduct excursions to high schools, industries, exhibits, etc.

Moving pictures showing conditions and processes in industry are shown in connection with occupational talks.

The counselors interview and re-interview pupils of the seventh, eighth, and ninth grades as indicated above, and also applicants for working papers.

The counselor sends the child's record and the report of guidance based upon it to the continuation schools if he be obliged to attend one, and to the employment bureau to serve as a basis for his choice of course or of job.

Conferences are held with parents at the school, by the counselor.

Home visits are made by the counselor wherever there is a conflict between the choice of the parent or child and the counselor's point of view, if the parent fails to confer with the counselor in school.¹

¹ *The Twenty-Third Yearbook of the National Society for the Study of Education. Part II, Vocational Guidance and Vocational Education for the Industries*, pages 84-85. Public School Publishing Company, Bloomington, Ill., 1924.

The duties of such officers in the Detroit plan are reported (by Professor A. H. Edgerton) as follows:

1. *Providing initial interviews and conferences*, especially for classifying pupils and for encouraging those who are entering the school to think more seriously of their educational advantages and occupational possibilities. It is attempted to have all boys and girls interviewed regarding these problems, either individually or in small groups, or both, during the early part of the first year.

2. *Following-up and helping to adjust pupils* who did not succeed in making tentative plans during their first year or years. Pupils are encouraged to consult with their school counselors or advisers whenever they have any general or specific questions pertaining to the election of, or preparation for, life occupations.

3. *Arranging group meetings to hear talks* by those who are especially qualified to speak and to answer questions about their chosen occupations. Conferences often are made optional for pupils who, having made tentative decisions, can benefit by talks from unbiased men and women who have succeeded in their callings.

4. *Providing occupational studies* in separate classes and by assisting teachers of English, social science, physical science, health education, practical arts, vocational subjects, etc., for imparting related occupational information to show relationships between the subjects of instruction and the occupations which involve them. (This usually results in making courses of study that will respect individual needs and capacities.) These occupational studies, which have become recognized parts of the courses of study in several subjects, include such considerations as importance of work, constancy of demand for employment, working conditions, qualifications and training needed, possible rewards and advancement, etc., in order to help pupils who continue their school work to select programs of training and courses in higher education more wisely, and to help those who find it necessary to leave school with a minimal amount of education to choose and plan their procedure more thoughtfully.

5. *Coöperating with teachers in keeping cumulative records* of each pupil's performance both inside and outside (where possible) of school. Counselors and other school representatives are interested in the results of tests of general intelligence as a basis for general classification, but they also recognize the importance of interpreting these records of a general measure as only one of the many factors resulting from testing pupils' abilities and interests in various ways through school and outside performance.

6. *Coöperating with the department which issues working permits* to children who are leaving full-time school, but are required by law to attend continuation classes for eight hours a week. It is attempted to interview each applicant at the school before a formal request for this permit is made at the central office of the Attendance Department where it is issued.

7. *Coöperating with all other school and outside agencies* which interview parents and children, investigate home and working conditions, and in any way pass upon the advisability or necessity for individual children to leave any particular school or to be transferred from one school to another. Every effort is made to solicit the coöperation of parents and others concerned in helping children to select suitable courses of study or training programs in preparation for their occupational interests or chosen plans.

8. *Coöperating with the placement officers, coördinators, and others* that advise, place, and adjust boys and girls who are qualified for part-time work, who desire positions upon leaving schools, or who wish to transfer to other employment. Each pupil who has decided to leave school benefits to some extent by the supervision of his employment contacts and training adjustments, and his employer unquestionably profits either directly or indirectly by this clearing-house for information that is available and needed.¹

Inasmuch as a trained vocational counselor usually has five hundred or more pupils to counsel, it is obvious that his work can be only supplementary to that of the home-room teacher in the planning of pupil programs. The counselor should be considered as a specialist contributing to the basis upon which the home-room teacher makes his final judgment as to the pupil's program.

School health service. — The periodic physical examination of pupils by qualified physicians and the general oversight of the school nurse should give to a teacher definite information as to defects that should be corrected by operation, by attention to diet, by corrective exercise or attention to posture, and those difficulties that demand special attention in the day-to-day school program of pupils. In the last group come particularly eye, ear, and general health defects. The danger to

¹ *The Twenty-Third Yearbook of the National Society for the Study of Education.* Part II. Vocational Guidance and Vocational Education for the Industries, pages 74-75. Public School Publishing Company, Bloomington, Ill., 1924.

avoid in the use of such service is that of leaving the whole matter of follow-up to the physician or school nurse. Even if the plan calls for the follow-up by the school nurse, the classroom teacher should see that the system functions for her pupils. Cases where difficulties have been diagnosed and forgotten are all too frequent.

The school principal. — The school principal may perform any of the activities listed as special services, except that of the medical examiner. However, there are certain services that should be performed by all principals. To the extent that the superintendent's immediate staff does not provide such services as those discussed on pages 276-282, the responsibility falls to the principal. Even in those school systems that have developed staff departments for leadership and coördination, the responsibility for carrying out the suggested plans and adapting them to the individual schools falls upon the individual principals. The principals in turn must depend for the success of the services they offer upon the receptive attitudes of the classroom teachers.

The guidance clinic. — Occasionally pupils are found who are out of step with their possibilities. Everything that the parents or teachers attempt to do to arouse their interest seems to fail. These pupils become causes of worry and distress. Recognizing the burden such pupils place upon teachers, some school systems have arranged to have such cases studied by specialists. The following discussion of the work of the Child Guidance Department of Montclair, New Jersey, gives an excellent explanation of the possibilities along this line.¹

The Need of Such a Department

There are some children in our schools who are not well adjusted. They are not getting as much out of school life as they could; they are not able to put into it as much as they should. We think of them as average or normal and yet they may show an extreme degree of some character trait. They may be painfully reticent and self-conscious; they may be always on

¹ From the Annual Report of the Board of Education, Montclair, New Jersey, 1926. Pages 52-57. By courtesy of Frank G. Pickell, Superintendent of Schools.

the self-defense; they may be excessively restless and unable to concentrate, constantly shifting from one activity to another; they may be exceedingly dependent; they may be satisfied only when they have the limelight focused upon them; they may be incapable of expressing their ability; they may need help in developing their latent capacities. *These are behavior symptoms which indicate that the boy, or girl, is struggling to overcome some problem in his own life that is almost too much for him; they reveal the effort that he is making to find a satisfactory solution of some personal difficulty.* Such behavior symptoms indicate that the child is not succeeding in one or both of two essential phases of life — either he is not at ease in his social relations with his comrades, or he cannot lose himself in objective interests; that is, he cannot forget himself in what he is doing. He is not as well adjusted to his life as are many of the other boys and girls.

Teachers and principals for years have known of such maladjusted boys and girls. They have been aware of the struggle these children are making in their attempt to find a sense of security and satisfaction, and they have tried their utmost to be of some assistance. They have often wanted advice and counsel but they have not known where to find it. The Child Guidance Department, consisting of specialists in behavior psychology, has been organized to meet the need of expert counsel in maladjustment cases. The need of this kind of counsel and advice is far greater than the average person realizes.

Procedure in Child Study

Starting with a definite behavior symptom, what does the child-guidance specialist do? He does just what the medical specialist does. If the doctor finds the symptoms of high temperature, he at once looks for the cause and then tries to eradicate it. Similarly the child-guidance specialist proceeds from the symptom to the cause and then to its removal.

A certain behavior symptom appears in school. Where may its cause be found? It may be found in the school itself, or in the home, or in the playground contacts, or in the training during early years, or in some other phase of child life. Whatever the symptom may be, the source of the difficulty must be located. *Knowing only one part of a person's life may not be of any help in finding the cause of a behavior symptom. We must know the individual as a whole.* We must know not only what he is like now, a cross-section of his life, but also what forces have been molding his development since early years, a longitudinal section of his life. We must know him as a whole personality.

If, then, a behavior symptom that appears in school may have its cause

entirely outside of school life, how can the school find the cause in order to solve its own problem? It can do so by including in its staff those who are especially trained to make such a study of the whole personality and life of the boy or girl. These especially *trained workers are a psychiatrist, a psychologist, and a visiting teacher.*

Specifically, how do these workers go about the study of the boy or girl as a whole? Very definitely, what sort of information do they seek? They need to know about the child's situation in school from as many sources of information as possible. How does he get along with other children; is he a leader or a follower; does he antagonize his comrades; is he solitary or is he one of the bunch? Is he making good in his work; does he carry through a job to completion; does he get satisfaction in actively responding to opportunities, or is he passive; does he have special interests and a chance to express them? They need to know about his home and his earlier years. Has he been healthy since birth; has he been severely ill; what are the attitudes of the rest of the family toward him; is he a pet or a black sheep; what is the family's ambition for him, and his interest and aptitude for that particular type of work; is he allowed more and more independence and responsibility as he grows up, or is he perpetually kept in a dependent attitude? They need to know about his interests and activities outside the home. Does he belong to any organized group for out-door sports, to the scouts or the Y.M.C.A.; does he share in activities connected with the church; does he have a job and if so does he make good; is he reliable and responsible and regular in appearance? Questions like these are the ones for which the *visiting teacher* tries to find the answer in her contacts with the school and home.

But this information, inclusive as it is, furnishes only part of the picture. What is this child's ability to do school work? What special abilities does he have? How much has he already achieved in his school work? How does he attack a new problem; does he have the ability to analyze the given facts, to discard solutions that are not reasonable, and persist in thinking through to a satisfactory conclusion? Is he more interested and capable in contacts with things or ideas or people? This much of the child's picture is contributed by the *psychologist.*

What is the same child's physical condition and how do his past illnesses affect the present situation? To answer this question, the *psychiatrist* includes, in his study, a general physical examination. He makes a study of the child's personality, of his mental habits, of his general attitude as to himself and other people and the problems he meets. When the particular problem calls for it, the psychiatrist makes a more extended mental analysis.

In this way these three workers, each specializing in his own field, contribute to the study of a problem case.

After the completion of the studies made by the specialists, a conference is held in order that the findings may be brought together and a conclusion reached. Each of these three workers presents his own findings. The teacher and principal contribute from their experience of daily contact. Thus one composite picture of the boy, or girl, as a whole is created. Intricate and subtle as the motives of behavior are, there comes out of this conference a general conclusion as to the probable cause of maladjustment for this particular boy or girl.

This comprehensive study is made and the conference of specialists held in order that the cause of the behavior symptom may be removed. Merely finding a probable cause is not adequate; each child must try to learn to face reality and to work out for himself, with help, a satisfactory adjustment. There are two possibilities for change; the child himself, or some part of his environment. The treatment will depend on the findings, of course. Under some conditions the psychiatrist may wish to see the child from week to week or month to month, to help him in his own adjustments. The visiting teacher becomes the child's good friend. She keeps in touch with his home. She helps him to connect up with outside interests. She follows his progress in school. The teacher in her daily contacts has very great opportunities, when she has the right kind of information, to encourage a change in the boy or girl or to adjust some part of the school environment.

Important Factors in Making Child Guidance Studies

The whole approach to this study by the school of the behavior symptoms of the boys and girls must be made in the attitude of this question: "What does the school mean to the boy or girl?" Is it a place where he is content and happy, in friendly contact with his comrades, in whole-hearted participation in school activities, in success in his school work? Or is it a place where he is unhappy, perhaps because he is being forced to try to do work that he hasn't the capacity to do, or because he is so handicapped by some emotional attitude that he cannot share in the life of the school and is solitary and "touchy," or because he has not in his home training been allowed to develop such habits of independent work as are normal for his age?

In searching for the answer to the above question, we need to keep two viewpoints in mind. We must see the situation from the point of view of the boy or girl, in order that we may share his attitude and project ourselves into his feelings and so understand his difficulty. Likewise we must see the situation from the point of view of an adult who, with experience and

knowledge at his command, interprets the complex relations of various parts of the problem and relates cause to effect. We grown-ups must not expect children to be adults on a small scale. In thinking of their problems, we must try to be two persons in one, to experience their point of view and our own at the same time.

In thinking of certain kinds of behavior as symptomatic of an underlying cause or motive, one needs to keep vividly in mind the overwhelmingly large part played by our emotional life. By our emotional life is meant our impulses, our needs, our desires, our feelings, our attitudes, our fears and hates and loves. These are the basic motives which prompt our action. Our emotional life is the result of our experience in social contacts with others. Is this limited to contacts through the medium of words? Far from it. William A. White, M.D., Superintendent of St. Elizabeth's Hospital, Washington, D. C., says, "*There is yet no adequate appreciation of the continuity with which we express our emotional sides in our postural attitudes, our facial expressions, our voices, mannerisms, remarks, opinions, interests, aversions, and how subtly, half consciously, often quite unconsciously we read these signs in those about us and are correspondingly influenced.*" Each one of us builds up his own emotional life out of the sum total of his social contacts, and, in turn, out of the substance of his own emotional life he makes his responses to others. *In fact, most of our decisions are made on the basis of our emotional life and not by our intellects as we may like to believe.*

A Typical Child Guidance Study

Perhaps the most satisfactory way to tell about the functioning of the Child Guidance Department will be to describe a typical study. Elizabeth's problem may well arise in any school. The teacher says that the problem is not and never has been one of conduct. The problem is one of school achievement. Elizabeth does not do the work that she is quite capable of doing. She does her work well only when sitting at the teacher's desk with the teacher's undivided attention concentrated on her. Even when she has the desk just in front of the teacher's desk the conditions do not sufficiently approximate those under which she is successful and she sits there and dreams.

On getting acquainted with Elizabeth in school, at home, and in other activities, some interesting facts are revealed. She is the youngest child; an older brother and sister have been away for several years at school and college; a younger brother died when she was two years old, thus making her the baby twice. Elizabeth is now ten years old, in the fourth grade, and has more than average mental ability. Her mother always calls for her at

school so she will be sure that Elizabeth will come right home. She wants Elizabeth to come into the house at once to do her homework, instead of having free time to play. The mother still helps Elizabeth to dress, constantly telling her to hurry. The process often takes three quarters of an hour. The mother even gives her her bath. The mother admits that she is not consistent in her discipline and does not hold to what she promises, and when she must spank Elizabeth, she is worn out afterwards. Elizabeth was a persistent thumb sucker until the age of 6, also an excessive nail biter. She is exceedingly restless. These are some of the facts of the whole situation.

It is evident that Elizabeth's school problem, not doing her school work, is but one phase of the deep-seated difficulty that overshadows every part of her life. She struggles against tremendous odds. What does school mean to Elizabeth? A place where she can succeed only when the conditions are the same as those under which she has grown up, only when she has the undivided attention and encouragement of an adult, only when she is in the full blaze of the limelight, her teacher in school playing a similar rôle to that of her mother at home. Elizabeth has never been permitted to develop any habits of independent activity. She is handicapped in making social contacts with her fellows; she is handicapped in applying herself to objective interests.

It is evident that the school problem has its roots primarily in the home situation. What change may well occur in the home? Elizabeth's mother may come to realize to what extent she has been living her own life in Elizabeth, to what extent she has found all her own emotional outlets and satisfactions in Elizabeth, to what extent she has warped Elizabeth's life. She may come to realize the effect of limiting Elizabeth's entire life to contact with herself, of excluding her from natural play contacts with other children, of preventing her from developing any independent habits of activity.

What specific approaches to a solution can be made? The process of dressing should be freed from all emotional attitude on the part of both mother and daughter. Elizabeth's interest can be enlisted in making the dressing time shorter and shorter by keeping a time record on a card every day and making a report of this regularly to the visiting teacher. Her successes would thus be recognized and she would be encouraged to make the record better and better. Elizabeth should also have contacts outside of the home with organized groups, such as a handwork club and a group similar to the girl scouts. She should depend on herself for her school work. No outside help should be given, in order that she may come to learn that only by her own effort can she achieve success. Elizabeth should go away to a summer camp, where she can live all day with other children and where she cannot seek her mother's protection and approbation even if she would.

Her mother can gradually build up other interests. Elizabeth can assume some responsibilities outside the home that will give her satisfying social contacts with others of her own age. The teacher can watch her for even the slightest suggestion of willingness to take responsibility, can encourage it, can persist in an optimistic, encouraging attitude in spite of the most discouraging results, and can give whole-hearted recognition to successes however slight. The change with both Elizabeth and her mother will be a matter of gradual growth. But the possibility ahead of a happy girl at ease with her comrades and able to achieve success in her work is an alluring challenge to continue the effort toward adjustment.

Elizabeth illustrates an emotional attitude centering in the home. There are, of course, other types of problems. Some show different degrees of an emotional situation; others emphasize a non-emotional source. Some problems arise within the school and not within the home. Two kinds of problems which arise within the school and for which our Montclair schools do not as yet offer an adequate solution may well be mentioned. They are the problems of the motor-minded child and the gifted child.

Planning and Coördinating Agencies

Department of guidance. — Some large school systems provide a department of guidance. The functions of such departments are represented by the following statement¹ of activities of the Boston Department of Vocational Guidance:

SPECIFIC ACCOMPLISHMENTS

I. Through Educational and Vocational Guidance

1. *For Elementary and Intermediate Pupils.* — "A Guide to the Choice of a Secondary School" was prepared to furnish information on all of the courses in the secondary schools in Boston, and to serve as a basis of study for counselors, teachers, pupils, and parents. These pamphlets are distributed to all the pupils of the eighth grades of the City, and become personal property of the pupils.

2. *For Secondary School Pupils.* — (1) Talks to high school assemblies and smaller groups have been given by members of the department. (2) Individual interviews with members of the senior and freshman classes and with those in need of educational or social adjustment. (3) Coöperation

¹ For this statement, the writer is indebted to the Director of the Boston Department of Vocational Guidance, Susan J. Ginn.

with departments of English, Civics, and Economics, in the study of occupations. (4) A file of information regarding college and special opportunities which have interested high-school graduates of this community during the past ten years, is available for use of pupils, parents, counselors, teachers, and all others interested.

3. *For Elementary, Intermediate, and Secondary School Pupils.* — (1) Besides the Director, six vocational instructors (men) and nine vocational assistants (women), constituting the central office, the department has representation in each type of school through a vocational counselor. Meetings with these counselors have been held: *a.* For purposes of information; *b.* For purposes of discussion. (2) The counselors, according to the time allowed, give careful guidance: *a.* In the choice of a secondary school; *b.* In the study of occupations. (3) In some schools specific work in the teaching of occupations is given by members of this department. A vocational assistant has been assigned to one intermediate school for this purpose. The pupils in the seventh, eighth, and ninth grades receive instruction. In the Boston Trade School, a vocational instructor is giving fully half of his time to guidance and classes in occupational civics. (4) Every undergraduate who appears at the office for work is carefully studied with the hope of returning him to some place in the school system, where he may receive further instruction before entering the working field. (5) The Boston Public Library has coöperated with the department in arranging for books on occupations on the shelves of all the branch libraries in the city. (6) A careful study of all evening school opportunities (both public and private) for boys and girls in Boston has been made by the department, and the schools listed according to the subjects taught. These are available for all interested.

II. Through Placement

(1) The department functions throughout the year. The office is open daily (except Sundays and legal holidays) from 8:30 to 5:00. Saturdays the hours are 8:30 to 1:00 (summer 8:30 to 12:00). (2) Placement is made only when it is determined that this is the best thing to do. (3) A report is requested from the school covering the physical characteristics, school accomplishment, and personality traits. This, with our own interview with the child, gives the department a basis for placement. On the other hand, the job is carefully investigated and recorded in order that we may properly select the one for the other. (4) Those who enter permanent work are urged at time of placement to continue further study during evenings. (5) Much time is spent in obtaining after-school work and summer work for those who are compelled to work in order to continue

schooling. (6) Great care is given in readjustment cases, the necessity due either to ability or to temperament. (7) Handicapped children are given special attention. The department coöperates with medical and social agencies in aiding this group.

III. Through Follow-Up

(1) In order to help young workers to a better understanding of relationships to employers, to other workers, and to society as a whole, the department conducts for those workers a noon office hour daily and an evening office hour twice a month, the first and third Fridays, 5 to 8 p.m. The young people bring to us all sorts of problems, financial, home difficulties, and many that may be termed temperamental. (2) In the fall of the year after graduation the department checks up with the higher educational institutions which our high-school graduates stated on their cards that they intended to enter. This often means that we are obliged to write to as many as eighty different institutions throughout the country. The records of those young people are kept in a separate file and followed up once a year until they have obtained a degree, or have withdrawn, when the reason for withdrawal is requested. (3) For those in commercial and industrial pursuits various methods are pursued. Some are visited on their job. Letters are sent to others inquiring about their welfare. Telephone messages and letters are sent to employers, asking them to express an opinion as to the quality of the work of these young people. Constructive criticism is welcomed from both. (4) From time to time the department has made recommendations to the committees in charge of the reorganization of the curricula. (5) Many scientific studies already have been made and charts prepared by the Department.

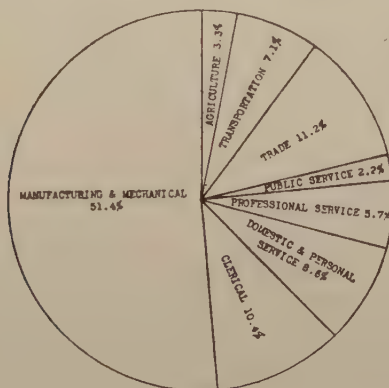
The important contribution the work of such a department can make toward meeting the responsibilities of placement in junior and senior high school is indicated by Illustration 16 (pages 279, 280), reproducing two pages from *A Guide to the Choice of a Secondary School*, prepared by the Department of Vocational Guidance, Boston, Massachusetts, and by Illustration 17 (following page 280), which shows two pages from the *Illustrated Course of Study* prepared by the Cleveland Vocational Guidance Department. Communities too small to provide such service should be able to look to a larger unit, such as the county, or the state, for such assistance.

ILLUSTRATION 16

FROM *A Guide to the Choice of a Secondary School*, Boston

TRAINING FOR MANUFACTURING

Do you like to make things? Before goods are ready for selling, they must be made, or manufactured, as we say. Do you know that nearly seven million people in the UNITED STATES are engaged in some form of productive industry? Do you realize that your own state, MASSACHUSETTS, occupies fourth position among all the states of the Union in the value of its manufactured products, and first in the production of boots and shoes and cotton goods? According to the Census of 1920, 1,728,297 persons in Massachusetts were engaged in gainful occupations. In the Census reports every occupation is included in one of nine divisions. The divisions with the number and per cent of persons engaged, in each, is shown in the following diagram and table:



NUMBER OF PERSONS REPRESENTED BY THE PER CENTS IN THE DIAGRAM

Agriculture, Forestry and		Trade	193,846
Animal Husbandry	57,739	Public Service	37,686
Extraction of Minerals	* 1,226	Professional Service	99,121
Manufacturing and Mechanical Industries	887,692	Domestic and Personal Service	149,011
Transportation	121,956	Clerical Occupations	180,020

* This group represents only one tenth of one per cent of the total, and is too small to be shown on the diagram.

ILLUSTRATION 16, *Continued*

FROM *A Guide to the Choice of a Secondary School*, Boston

TRAINING FOR MANUFACTURING

From the diagram you will see that slightly more than one half of all the persons in Massachusetts, who are gainfully employed are engaged in manufacturing and mechanical industries.

Perhaps you know that some of the prominent industries of greater Boston are:

Boots and Shoes	Woolen Goods	Electrical Machinery
Cotton Goods	Cutlery	Confectionery

READ what the manufacturers in this country say about the value of an education.

"There is always a place for a man equally as large as he is mentally."

"The opportunity for advancement will depend upon the individual."

"Every person is dependent upon himself, and is advanced according to his ability."

CHARLES M. SCHWAB, President of the Bethlehem Steel Company, says:

"An employer picks out his assistants from the best informed, most competent and conscientious. A man to be successful, even as a specialist, should have a good general knowledge, and therefore ought to read and study much; a well informed man is always the better for it. All through my life I have read and studied."

You must appreciate that more education will help you to do better your share in maintaining the present high industrial position of Massachusetts among the states of the Union.

ILLUSTRATION 17

FROM *Illustrated Course of Study* OF THE CLEVELAND HIGH SCHOOLS



Experience in Wood-Working is Required in Many Trades

Principles underlying construction of buildings as well as those utilized in the finer work of cabinet-making are acquired by the boy who takes the wood-working course given in Cleveland's technical high schools.

Contractors, builders of automobile and airplane bodies, furniture makers, electricians and others find this experience in wood-working an essential.

IF you play on a school athletic team you know you are expected to "play the game every minute." The greater the odds and the heavier the handicaps the harder you will fight. Let the same spirit mark your attitude toward your studies. Then you'll not whimper over difficulties. You'll fight to conquer them—and you'll win!

Attractive Dresses Made in Home Economic Classes

Wide-awake girls in all Cleveland high schools soon learn to profit by their training in art and home economics. Many design and make all their own clothes.

Some of these girls, after graduation, are employed as garment designers and fashion artists.

And every one is better prepared as a result of her school training for service as a home-maker.



Discover Your Own Abilities

The high school world is a world of discovery. Here you make discoveries about yourself: whether or not you have the ability to work with people without irritating them or yourself; the ability to play with people to their pleasure and your own; the ability to read both with intelligent understanding and absorbed enjoyment; the ability to make independent judgments on many questions.

The greater the number of these discoveries you make in your teens, the greater will be your opportunity for discovering the secret of the kind of life you want to live after high school.

ANNIE SPENCER CUTTER,
Cleveland Public Library
(Graduate of a Cleveland High School)



Mechanical drawing is taught in the technical high schools for those who want to be architects, draftsmen or engineers.

The department of research. — The need of specialists in the development of testing programs or in the measurement of results in supervision of instruction, and in the analysis of the needs of individual boys and girls, was one of the greatest forces that led to the development of research departments. The greatest aid given by research departments in connection with the problems treated in this book is in the development of systematic procedures that will: (1) provide adequate information for determining the individual needs of all boys and girls in the school system; (2) provide for the periodic assembling of all such information on each pupil; (3) provide for the adequate interpretation of this information and the development of individual pupil programs; and (4) provide for the development of school organization that will offer the needed opportunities. This demands:

1. The development of a program for testing pupils periodically.
2. The provision of specialized testing service, particularly for the administration of mental tests and aptitude tests.
3. The development of plans for assembling and interpreting the data thus obtained for individual children.
4. The development of courses of study adapted to individual needs.
5. The development of self-administering instructional materials such as those discussed in Chapter VI.
6. The performance of the functions of the Department of Vocational Guidance, or the coördinating of the work of such a department with the complete program of adjustment to individual needs.
7. The development or adaptation of plans for school organization that will make easier the task of meeting individual needs.
8. The development of a system of records and reports that will assist in collecting and using pertinent information from all sources, including tests, vocational counselors, teachers, previous schooling, health examinations, visiting teachers, and the attendance department.

It is obvious that in the carrying out of all such activities teachers and principals must play an important part. Assistance comes from the leadership of the central department, the coördination of the activities of teachers throughout the system

so that the work of one can be made available to many, and the provision of special services such as those of the vocational counselor and the psychologist.

The importance of such service becomes apparent from the discussion of the following two sections in this chapter and of plans for meeting educational needs in the following chapters.

A Testing Program

A program of testing that will make information available not only for the measurement of results in teaching subjects, or the improvement of the teaching of subjects, but will also provide objective information on abilities and achievements of individual boys and girls, is essential to an adequate adjustment of the schools to the needs of boys and girls. As was pointed out in earlier chapters, without such information the adjustment of schools to the needs of individuals is guesswork.

It should be pointed out here that tests need not always be standardized tests, although such tests are on the whole easier to handle. Rochester, New York, and Detroit, Michigan, are notable examples of city systems that combine local and standard tests in their testing programs. The following is the part of the testing program carried out in the elementary schools of Rochester in June, 1926.

FINAL EXAMINATION — ELEMENTARY SCHOOLS — 1926

LOCAL TESTS, — ENGLISH — GEOGRAPHY — ARITHMETIC — SPELLING

STANDARDIZED TESTS, — READING — SPELLING

First Test — Reading — Thorndike-McCall

1. Date: Thursday A.M., May 13, 1926
2. Time: 9:00-9:30
3. Grades: 3B-6A Inclusive

Second Test — English — Local

1. Date: Thursday A.M., May 20, 1926
2. Time: 9:00-10:30
3. Grades: 4B-6A Inclusive

Third Test — Geography — Local

1. Date: Thursday A.M., May 27, 1926
2. Time: 4B-9:00-10:00 — 4A-6A-9:00-10:15
3. Grades: 4B-6A Inclusive

Fourth Test — Arithmetic — Local

1. Date: Thursday A.M., June 3, 1926
2. Time: 9:00-10:15
3. Grades: 4B-6A Inclusive

Fifth Test — Spelling — Local

1. Date: Wednesday A.M., June 9, 1926
2. Time: 9:00-9:30
3. Grades: 3B-6A Inclusive

Sixth Test — Spelling — Ayres

1. Date: Thursday A.M., June 10, 1926
2. Time: 9:00-9:30
3. Grades: 3B-6A Inclusive

The above program was planned and supervised by the supervisory staff. In contrast with this, attention may be called to the plan followed for several years in Buffalo, New York, of giving the Stanford Achievement Test in all grades from the fourth through the eighth, largely under the combined supervision of a group of principals and the central office staff.

Here follow the testing programs carried out under the supervision of the writer for the purpose of measuring the adequacy of classification in two city school systems. These tests were given to discover how well the needs of pupils were being met by the schools.

CITY A

Grade 1

Haggerty Intelligence Test ¹

Detroit Kindergarten Test ¹

The Gates Primary Reading Test of Word Recognition ²

¹ World Book Co., Yonkers-on-Hudson, N. Y.

² Bureau of Publications, Teachers College, Columbia University.

Grade 2

Haggerty Intelligence Test

The Gates Primary Reading Test of Word Recognition

The Gates Primary Reading Test of Word, Phrase, and Sentence Meaning²The Gates Primary Reading Test of Reading of Directions²*Grades 3 to 8 Inclusive*National Intelligence Test¹McCall Multi-Mental Intelligence Tests²Gates Test of Reading to Appreciate the General Significance of a Paragraph²Gates Test of Reading to Predict the Outcome of Given Events²Gates Test of Reading to Understand Precise Directions²

Gates Test of Reading to Note Details

Stanford Reading Test — Paragraph Meaning¹Stanford Test of Arithmetic Computation¹Stanford Test of Arithmetic Reasoning¹Stanford Test of History and Literature¹Stanford Test of Nature Study and Science¹Stanford Test of Language Usage¹Morrison-McCall Spelling Test¹*The Boys Thirteen Years Old or Older*

Stenquist Mechanical Aptitude Test,¹ in addition to the tests mentioned above.

CITY B

<i>Name of Tests</i>	<i>Grades</i>
Thorndike-McCall Reading Test ²	3 through 8
Morrison-McCall Spelling Test	4 " 8
Woody-McCall Arithmetic Test	4 " 8
Gates Diagnostic Reading Test — General Significance	3 " 8
Gates Diagnostic Reading Test — Precise Directions	3 " 8
Gates Diagnostic Reading Test — Note Details ²	3 " 8
Gates Diagnostic Reading Test — Word Recognition	2
Gates Diagnostic Reading Test — Word, Phrase, and Sentence Meaning	2

¹ World Book Co., Yonkers-on-Hudson, N. Y.² Bureau of Publications, Teachers College, Columbia University.

Gates Diagnostic Reading Test — Paragraphs of Directions	2		
Monroe Reasoning Tests in Arithmetic ³	4	through	8
Pressey-Richards History Test ³	6	"	8
Charter's Language Test ³	4	"	6
McCall Multi-Mental Intelligence Scale	4	"	8
Otis Intelligence Test ¹	4	"	8

An Adequate System of Records

Cumulative records. — One of the greatest aids in the diagnosis of the needs of pupils is an adequate system of records that will bring to each teacher the results of the analysis made by earlier teachers, the accurate records of important data such as date of birth, intelligence-test results, and adjustments made in the pupil's program in the past. In spite of the agitation over a long period of years for the keeping of cumulative records of pupils, there are still many school systems that do not provide them. In such school systems, each teacher starts from the beginning to discover her pupils, and usually has not made a great deal of headway before she passes them along, without recording her findings, to a new teacher.

The cumulative record should show important information bearing upon the classification of pupils from all sources — marks and ratings from the teacher's class book, attendance record from his register and adjustments from his plan book, home information from the attendance department, and characteristic information from special lists discussed in the preceding section, and from the testing program.

Chart 35 shows graphically the sources of data that should be recorded in the cumulative records of each pupil. It shows likewise the actual participants in the collection of the data and the frequency of collection. This chart summarizes the contributions of all the services discussed in the preceding sections of this chapter.

¹ World Book Co., Yonkers-on-Hudson, N. Y.

³ Public School Publishing Co., Bloomington, Ill.

CHART 35. The Agencies Participating in the Collection and Use of Individual Pupil Data

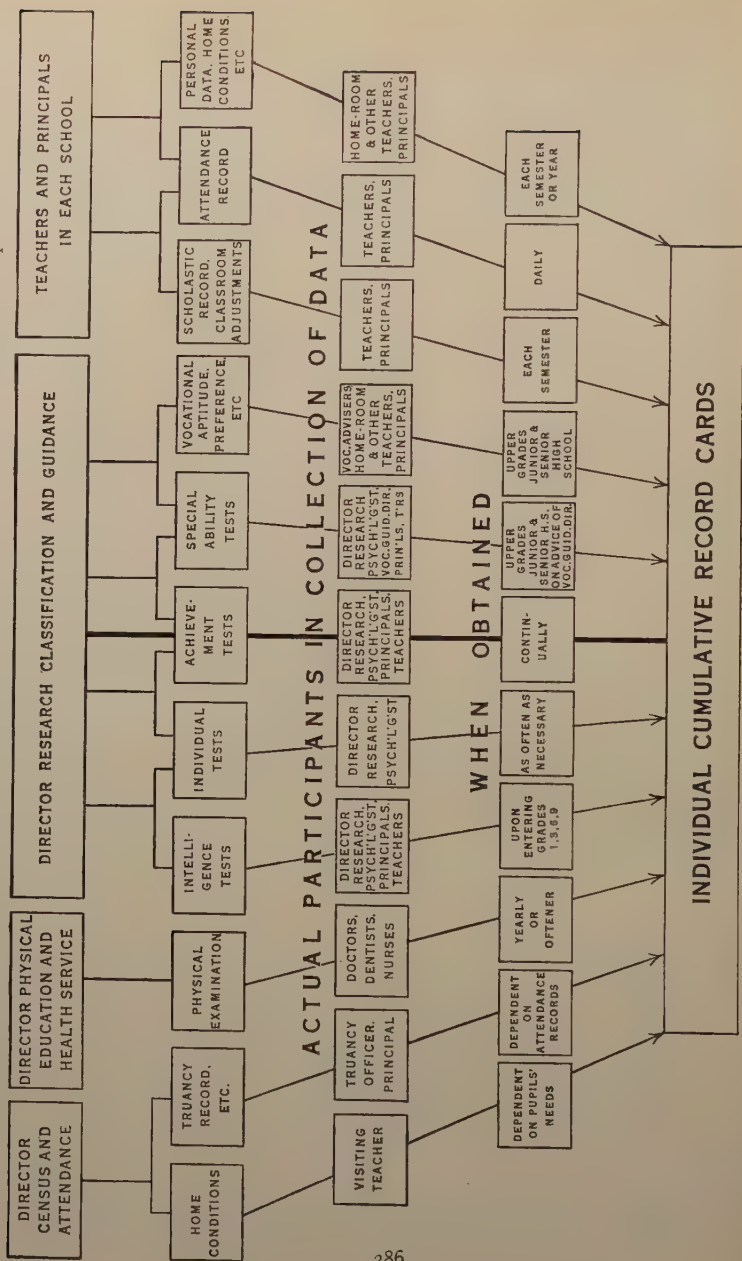


Chart 36 shows a card giving basic information on grade placement and adjustment, residence, and date of birth of elementary pupils. This card should be supplemented by cards of like size for test records and for social and vocational information. It is possible to combine these various types of records into one. The disadvantage in setting up one complicated record card is that it makes it more difficult to add items to the record kept. When three or four cards of the same size are used for such information, they can be kept together readily and a new card can be introduced any time it seems desirable without necessitating the copying of a great deal of basic information from the old card to a new card. In other words, the system that uses more than one card is more adjustable than the single-card plan. The plan of using a folder for all sorts of information on the pupil has some of the advantages of the system of several cards. It is desirable to keep duplicates of such records in the principal's office. In junior and senior high schools, the original should be in the possession of the home-room teacher.

Classification cards.—The permanent record card does not lend itself to the form that facilitates the diagnosis of individual needs for the following reasons:

1. Not all the data on the permanent record card are of use in this procedure.
2. Current information that should not be recorded on the permanent record card should be brought together at this time.
3. There is need of a separate form to facilitate school organization, particularly in junior and senior high schools.
4. There is need of a separate form to facilitate accounting.

The need of a separate form upon which all data pertinent to the periodic analysis of needs of pupils could be collected led to the development of the record card shown in obverse and reverse in Charts 37 and 38. This corresponds to the chart shown on page 46 (Chart 1). It is adapted to use in grades three to seven, inclusive.

CHART 37

Classification Card for Use in Grades 3 through 7
(Obverse)

Pupil..... Date..... Grade..... Boy
Girl.....

Address..... Tel. No..... Home Room..... Parent.....

School..... Teacher.....

Date of Birth..... Height..... Weight.....

Entrance grade in this school system..... Entrance grade in this school.....

Grades skipped..... Grades repeated..... Half years spent in kindergarten.....

Does pupil expect to go to high school?..... College?.....

What does he want to do when he finishes school?.....

Does he take music lessons outside of school?..... Other lessons, if any, outside of school?.....

Member of the following school teams or other organizations:.....

Outside organizations:.....

What musical instruments?.....

What magazine does he read most?..... How is out-of-school time spent?.....

Is there a room in the home where he can study by himself?..... What kind of music does he like best?..... Has he a card for the public library?..... Times each week spent at the movies?..... What language is spoken in the home?..... How many books in the home?.....

Specific Weaknesses.....

Physical Defects.....

Too mature socially for this group?..... Too immature?..... Does the program of this pupil vary from that of the class as a whole in any manner?.....

Has this pupil ever been in a class of other than average ability pupils? (Give grade and nature of class and success).....

Variations from section program at any time in past (give grade, type of section, and nature of variation).....

Any other irregular features in this pupil's school history.....

Enrollment in this class..... Type of class.....

Draw a line through each item in which this pupil is one of the best 5 in his class; encircle each item in which this pupil is one of the poorest 5 in his class. Indicate scholarship in blanks:

1. General Ability	5. Leadership	9. Freehand Drawing	13. Spelling
2. Mechanical Ability	6. Reading	10. Arithmetic	14. Music
3. Attitude toward Work	7. Nature Study & Science	11. History	15. Shop Work
4. Health	8. Language Usage	12. Literature	

		GRADE										
		3	4	5	6	7	8	9	10			
		AGE										
Variation from Normal Weight	Scores	8	9	10	11	12	13	14	15	16		
I. Q.----- E. Q.----- Average-----	Age Equivalents											
Chronological Age.....												
Height.....												
Mental Test.....												
Achievement, Average.....												
Reading, Paragraph Meaning.....												
Reading, Sentence Meaning.....												
Reading, Word Meaning.....												
Arithmetic Computation.....												
Arithmetic, Reasoning.....												
Nature Study and Science.....												
History and Literature.....												
Language Usage.....												
Spelling.....												
Mechanical Aptitude.....												

Pupil's Record..... Record of Section to which assigned.
Use vertical line to represent grade standard.

CHART 38
Classification Card
(Reverse)

Assigned Classification.....Term 19.....19.....
 Grade.....Home Room.....Section.....Type of Section.....
 Variations from this Section.....

Preliminary Classifications

(1) Teacher's Recommendations: Grade.....Type of Section.....
 Special Needs

(2) Schedule Committee: Grade.....Section.....Type of Section.....
 Variations from this Section.....

(3) Reviewing Committee: Shortcomings in this classification.....

PUPIL CLASSIFICATION CARD

Additional Information Bearing upon the Classification of this Pupil:

The obverse of a form adapted to the lower grades is shown in Chart 39.

CHART 39
Classification Card for Primary Pupils
(Obverse)

.....School		Teacher		Grade
Pupil.....	Date		Girl.....	Boy.....
(Last Name)	(First Name)			
Date of Birth.....	Present Age.....	years and	months	
Date of last health examination.....	Physical defects.....			
Corrections.....	Vaccination: smallpox?.....	typhoid?.....		
Schick test?.....	Present height.....	Weight.....		
Entrance grade in this school system.....	In this school.....			
Years spent in kindergarten.....	Age pupil entered first grade.....			
Grades skipped.....	Grades repeated.....			
Does this pupil take music lessons outside of school?.....				
Other lessons, if any, outside of school.....				
Does his school program vary from that of the class as a whole in any manner?.....				
Does he attend Sunday School?.....		Church?.....	Member of any school club or other organization such as Young American Club, Blue Birds, Sun Beams, etc.?.....	

Enrollment of this class..... Type of class.....
Draw a line through each item below in which this pupil is one of the 5 best in his class; circle each item in which this pupil is one of the poorest 5 in his class; indicate scholarship in blanks:

- | | |
|---|-----------------------------|
| 1. General ability..... | 10. Industrial arts..... |
| 2. Personal neatness..... | 11. Projects..... |
| 3. Leadership..... | 12. Drawing..... |
| 4. Ability to work with other children..... | 13. Art appreciation..... |
| 5. Health habits..... | 14. Singing..... |
| 6. Oral expression..... | 15. Music appreciation..... |
| 7. Reading..... | 16. Organized play..... |
| 8. Writing..... | 17. Dramatization..... |
| 9. Numbers and measure..... | 18. Nature knowledge..... |

		GRADE													
		Age	K	1	2	3	4	5	6	7					
Variation from Normal Weight	Scores	Age Equivalents	5	6	7	8	9	10	11	12	13				
I. Q.	E. Q.	Average.....													
Chronological Age.....															
Height.....															
Mental Test.....															
Achievement, Average.....															
Reading, Paragraph Meaning.....															
Reading, Sentence Meaning.....															
Reading, Word Meaning.....															
Arithmetic Computation.....															

.....Pupil's Record.....Record of Section to which assigned.
Use vertical line to represent grade standard.

The adaptation of the classification card to high-school conditions depends upon the use of the form in the organization of the school. Charts 40 and 41 show the obverse and reverse of a form adapted to the plan that requires the pupil to carry his program the first day of school. At the time when programs for the new

CHART 40

Classification Card for Grades 8 to 12
(Obverse)

Pupil..... Date of Birth.....
 Address..... Grade..... Home Room.....
 Father's name..... Business address.....
 Father's occupation..... Pupil's height..... Weight.....
 Entrance Grade in this school system..... In this school.....
 Grades skipped..... Grades repeated..... Does pupil take private music lessons?.....
 Other private lessons? (Specify)..... Hours per week demanded by outside work or private lessons.....
 Member of the following school teams or organizations.....
 Outside organizations..... What musical instruments in the home?.....
 Is there a room in the home where you can study alone?..... How many hours a week do you spend in the public library?.....
 How many hours a week at the movies?..... Language of the home.....
 How many more years do you expect to continue in school?..... Do you expect to go to college?.....
 Where?..... What occupation do you expect to follow when you have completed your schooling?.....
 Where did you get the idea?..... When?.....
 What do your parents want you to do?.....

(For the home-room teacher)

Subjects, activities, characteristics* and aptitudes in which this pupil is rated, scored or marked in records and special reports as unusually proficient or deficient.

	Elementary School		Junior and Senior High School	
	Subjects, Etc.	Rating	Subjects, Etc.	Rating
Unusually Proficient				
Unusually Deficient				

What marked adjustments have ever been made to adapt the usual program to the needs of this pupil?.....

In your judgment, is the nature and extent of the program this pupil is planning fitted to his abilities, aptitudes and needs?.....

If not, why?.....

*Use code not available to student.

Mort Pupil Classification Card for Grades 8-12

term are made out, the pupil takes a blank card and enters all the information except that in the section marked *for the home-room*

CHART 41
Classification Card for Grades 8 to 12
(Reverse)

Program for Term 19.....19..... Grade Home Room.....

[illegible]

Signature of Parent _____

Desirable variations from usual purpose of particular course.....

Home-Room Teacher.....

COURSE OF STUDY FOR GRADES 9 TO 12

[illegible]

* Enter marks for past terms and credits gained toward graduation

teacher. The home-room teacher then enters the supplementary information, writing any confidential information in code. This

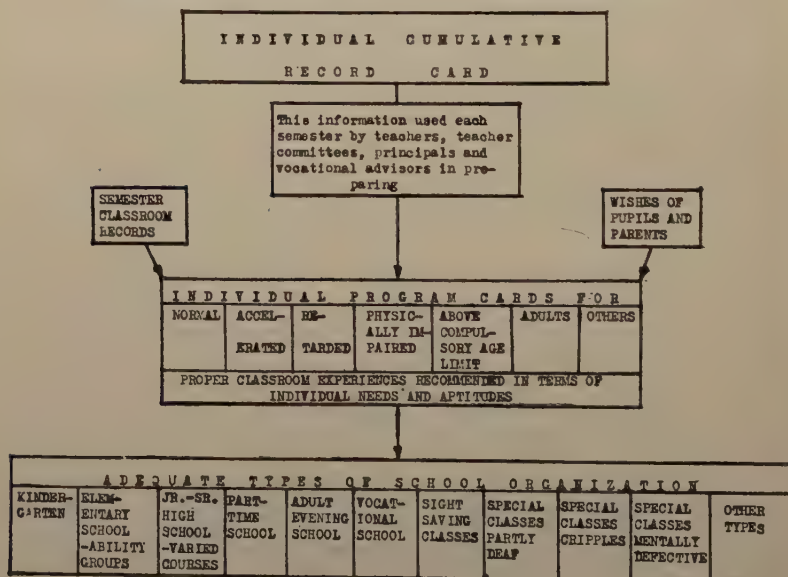
information is then available in all later considerations of the pupil's program. At the beginning of the new term the pupil carries the card to his new teachers and makes a complete copy for each of them. The original, signed by each teacher, is returned to the home-room teacher.

Chart 42 shows the sources of the various data that are collected upon the classification card and the uses of the card.

Obtaining information from departmental teachers. — In Chapter III the importance of judgments of class teachers in the planning of pupil programs is emphasized. One of the big problems in the junior and senior high schools is the gathering in of the judgments of the various teachers represented in each home-room group. A plan that provides for a periodic report of needed information about pupils with the minimum expenditure of time

CHART 42

Sources of Data Assembled on the Classification Card



on the part of the class teachers is needed for this purpose. The following is the description of such a plan developed for the purpose of gathering teacher judgments on various items for the use of the home-room teacher, and for record purposes of no interest in this connection.

A report was desired on each pupil in five items. When combined, this report was called a citizenship rating. Had teachers been required to make reports on all students, even on this limited rating chart, a considerable amount of clerical work would have been added to the work of the teachers. Each teacher would have been required to report on approximately 150 students, and each home-room teacher would have had 300 ratings to consolidate. Consideration of this led to a plan which promised to give substantially the same results with the handling of what proved to be approximately only seven per cent of the number of rating slips. Instead of asking teachers to report on every case, they were asked to report on exceptional cases only. Furthermore, they were not asked to rate these exceptional cases, but simply to report them. If a student did not stand out remarkably from the others, the teacher did not report him. The teacher was, therefore, required to make no report on the large mass of students. Furthermore, he was saved the difficult task of assigning relative positions to the students. The following instructions sent to teachers three or four days prior to the end of the semester explains the method of reporting:

*Reports due from both class and roll teachers January 13, next
Friday, in office box*

Citizenship ratings will be asked for Friday, January 13. The nature of these reports was discussed in teachers' meetings. The subject matter was given in the bulletin of December 12, and is reproduced herein. Report students who appeal to you as much above or below average in any or all of the traits listed below [on the following page]. This refers to contact with students in any capacity or in any place (class, home room, grounds, athletic fields, etc.)

- I. Personal characteristics —
such as physique, cleanliness, expression, honesty, thrift, courtesy, industry, loyalty, self-control.
- II. Respect for property —
proper attitude of pupil toward his own possessions and those of others, as well as toward school and other public property.
- III. Manifestation of business ability —
characteristics which reveal business qualities in the student's school or outside activities which may become known to the faculty.
- IV. Part taken in school activities —
not only part taken in class activities and organized efforts of school, but also any activity, group or individual, which contributes to the betterment of the school.
- V. Demonstrations of ability displayed in activities outside of school —
part taken in anything which has for its object the betterment of the social and civic welfare of the community.

Method of Reporting. — There should be a 3×5 slip for each student reported, one student to a slip. Each slip should carry —

Student's name.

Home room.

Index number of traits reported if merit; index and description if demerit. (Discussion of merit not required.)

Teacher's name.

Date.

The slips should appear similar to the following:

John Doe

48

Merit *I, II*

Demerit *IV (with details of the demerit)*

Jan. 13, 19—

A. J. Brown

This report would be interpreted: John Doe is much better than average in traits I and II (personal characteristics, respect for property) but much worse than the average in trait IV (part taken in school activities). In traits III and V he would be considered neither much above nor much below average, since these traits are not mentioned on the report. No discussion need appear for merits, but for demerits the situation should be described.

Note in this the elimination of work required of the teacher wherever possible. The plan required no distribution of blanks, since teachers were able to use the blank side of forms in their possession.

At the end of the first term, ten reports on the average were received from each teacher. Approximately one half of the seniors were reported by two or more teachers; approximately one fourth of all other pupils were reported by two or more teachers.

The number of times each pupil was reported was placed on the record, which, in this school, is a separate card for each semester. A scholarship record appears on the obverse of this 3×5 card and the so-called citizenship ratings on the reverse.

CHART 43

A Semester's Record of Citizenship Reports of an Outstanding Student
(Reverse of Term-End Card)

	No. of Merits Reported	No. of Demerits Reported
I Personal Characteristics	6	
II Respect for Property	3	
III Business Ability	3	
IV School Welfare	6	
V Community Welfare	2	

Chart 43 is the office record of an outstanding student for one semester. Six teachers reported this student as outstanding in

personal characteristics; three as outstanding in respect for property; three for business ability; three for contributing to the school welfare; and two for contributing to community welfare.

The accumulation of ratings of teachers from term to term adds to their reliability. During twelve terms of junior and senior high school, a pupil reported by six teachers each semester as outstanding in a trait would receive 72 merits in that trait. The same would hold for the other end of the scale. The result is a possible variation in rating during a junior-high-school and senior-high-school course from *positive* 72 to *negative* 72. The simple plan of reporting therefore provides a scale for measuring pupils in the points reported.

Chart 44 gives the record of a pupil who had spent eight semesters in a school using this plan. This pupil received more positive ratings than any other pupil in a class of 800 pupils. She had received a total of 80 out of a possible 240 positive ratings. In this class there were 101 pupils who in eight semesters were not noticed by any teacher as being outstanding either positively or negatively in any one of the five traits.

CHART 44

The Four-Year Record of Citizenship Ratings of an Outstanding Pupil

	No. of Merits Reported	No. of Demerits Reported
I Personal Characteristics	31	
II Respect for Property	15	
III Business Ability	13	
IV School Welfare	14	
V Community Welfare	<u>7</u>	
Total	80	

This device is applicable to the collection of data on such items as those for which ratings are asked on the form given in Chart 40.

The Responsibility of the Teacher

A careful study of Chart 35, page 286, will make clear that the services discussed in this chapter are services for the most part in the diagnosis of needs of individuals. They offer little to the teacher in his actual teaching other than the help that comes from the research department in the provision of working materials and in adjustment of the curriculum.

PROBLEM 22

VOCATIONAL GUIDANCE IN THE JUNIOR HIGH SCHOOL

What is the function of a director of vocational guidance in a junior high school having accommodations for 1400 pupils?

There are 50 teachers, 33 of whom are home-room teachers. There is a vocational-guidance director who spends a part of her time as an attendance officer, and as director of the extra-curricular activities of the school.

When pupils are in the sixth grade, they are approached both individually and in groups by the vocational-guidance director in order to determine where they should be placed when they enroll in the junior high school. These interviews of the sixth-grade pupils take place during the last two or three months of the school year. When the pupils finally enroll in the seventh grade of the junior high school they are put in one of the seven ability groups on the basis of their records in the previous grades and their ratings in the intelligence tests. The placement in the ability groups is flexible in that the pupils may be transferred from one group to another at any time the circumstances permit.

The seventh year has no electives.

During the seventh year the vocational-guidance director again approaches the pupils individually and in groups to discover their interests and aptitudes, and to advise them as to their work in the eighth and ninth years.

In the eighth year the pupils are classified according to the

curriculum in which they have a major interest: academic, commercial, practical arts, and general.

In the ninth year the curriculum is divided into three courses; namely, the preparatory, the commercial, and the practical arts. The pupils are expected to find a place in one of these courses.

This junior high school has about twenty clubs, such as the Ukelele Club, Typing Club, Tatting Club, Poetry Club, etc. The vocational-guidance director has no definite official relation with these clubs.

The home-room teacher has little or no part in guidance. The vocational-guidance director is responsible for vocational and educational guidance.

Assignment: 1. What are the purposes of vocational guidance in the junior high school?

2. Are they being adequately served in this school?

PROBLEM 23

CASE STUDIES OF MALADJUSTED PUPILS

What outside aid can be given the home-room teacher in dealing with difficult cases of maladjustment?

The following plan of dealing with pupils who are failing is in use in a western city:¹

1. *Report of classroom teacher to the principal.* — When in the judgment of the classroom teacher, a given pupil becomes maladjusted in his classwork, a report is sent to the office of the principal giving the details of the case and stating as nearly as possible the reasons for the low quality of work being done. This diagnosis may be correct according to the experience of the teacher and the amount of study given to the case.

2. *Conference of pupil and adviser or home-room teacher.* — The teacher's report is sent to the adviser or home-room teacher of the pupil reported, who calls him into private conference,

¹ The author is indebted for this description to V. C. Arnspiger, Superintendent of Schools, Drumright, Okla.

where his attention is directed to his unsatisfactory work and suggestions for his improvement are offered. In the majority of cases reported, it is found that this conference results in a better grade of work being done on the part of the pupil.

3. *Second report of classroom teacher to principal.* — In case the conference with the adviser does not result in a satisfactory grade of work being performed, a second report to the principal's office follows within three or four days. Then follows a conference of principal and pupil.

4. *The principal and pupil conference.* — This conference, which is the next step in the clinical study of the maladjusted pupil, is very important. The attitude of the principal must be sympathetic and friendly. The pupil must be made to understand that he is not being punished or unduly criticized, but rather that he is being called in to assist in studying his own case, that his opinions are to be seriously considered, and that the study is to result in his being given assistance where it is found to be needed. The pupil is often able to furnish information that will lead to the immediate correcting of his maladjustment.

Following this conference with the pupil, his parents are notified by letter of the maladjusted conditions and a conference with the principal is requested at an early date.

5. *The principal and parent conference.* — This conference also is very important. The parent must be made to understand that the future educational progress of the pupil is involved and that all information possible leading to a scientific diagnosis of the case must be given concerning the pupil in order that proper remedial measures may be applied which will result in forestalling the impending failure in the given subject.

From this source the principal may be able to collect important social data, he may find that conditions surrounding the pupil's home study are unfavorable, or he may discover certain psychological or physiological conditions that prevent satisfactory progress on the part of the pupil under consideration.

Suggestions are made to the parent concerning favorable home study conditions, etc., which usually lead to a rapid improvement of the work done.

If at any point in the study up to this time outside assistance is found to be needed, such as medical attention, etc., such assistance is given, the expense to be borne by the school system in case the financial condition of the parents will not permit of their meeting it. It is understood that throughout the study of the individual case the classroom teacher is consulted frequently and that his opinions concerning the case are carefully considered. The classroom teacher is apprised of all findings of the study, and suggestions are given concerning remedial measures to be undertaken within the classroom and in supervising the study of the pupil under consideration.

Remedial measures suggested by the clinical study up to this point being applied, the maladjustment is corrected in the great majority of cases and the pupil's work usually reaches a satisfactory level.

If, however, the pupil's work remains unsatisfactory, the teacher in the light of what he now knows of the case again reports to the principal's office, where further study is made of the case.

If an individual intelligence test reveals the fact that a pupil is unable to do the work of the class to which he has been assigned, he is transferred to a group whose ability level more nearly coincides with his own. If a specific educational test shows that the pupil is wholly unable to perform the type of work required in the study of the specific subject for which he is enrolled, he is allowed to drop this subject and substitute another which, in the light of the study made, seems to offer a greater probability of successful work being accomplished.

A very small per cent of cases of maladjustments have not responded to treatment. Between one and two per cent of cases studied have been mentally incapable of carrying on any form of high-school work. Another very small per cent have been

eliminated because the high school was unable to offer work which was adjusted to their individual needs. They were not regarded as failures but were given guidance in the selection of work outside of school which would enable them more efficiently to participate in the normal activities of social and economic life.

Assignment: 1. What adjustments given in the summary on pages 262-264 can be met by the procedure here outlined (pages 300-303)?

2. To what degree would such a plan be helpful in an elementary school?

3. What persons should perform this function in the high school? In the elementary school?

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CHAPTER IX

SPECIAL TREATMENT FOR SMALL GROUPS

Mentally Retarded Pupils

IN large school systems, there is a sufficient number of pupils who are retarded mentally to make possible the organization of special classes for them. This takes the problem of providing adjustments for such children from the shoulders of the classroom teacher. Since there are on the average only 2 to 3 per cent of boys and girls sufficiently defective mentally to demand a markedly different educational treatment, schools having less than 500 pupils can not organize such classes without considerable cost.

Such classes should not be developed without the assistance of a trained psychologist. Pupils who are to be placed in special classes to receive the special curriculum developed for mentally retarded pupils should be chosen by individual intelligence tests, further checked by a thoroughgoing physical examination. There should be every assurance that a seeming lack of mental development is not due to physical defects which are barriers between a really able mind and the outside world. The attempt to develop classes for mentally retarded pupils without these precautions is dangerous.

Possible candidates for such special classes can be discovered from the original intelligence tests given in the first grade or even in the kindergarten. It is considered a good practice, however, to continue these pupils in the regular classes for at least a year for further observation. Possible candidates for retarded classes should then be given the thoroughgoing physical and mental tests indicated above. The type of pupils dealt with

in such classes should be those who give promise of ability to fit into the life of the community. Assured institutional cases should become wards of the state and should not make claims upon the local school system.

Inasmuch as the pupils who are to be in such special classes are to be fitted for life in the community, the special classes should be housed in centers in regular schools where all possible contacts with other children from which they can gain can be provided. While many cities follow the practice of segregating such classes in special buildings, there is no objective evidence available that this plan is the more desirable. The writer believes that segregation places unnecessary handicaps upon those teachers who have the task of fitting such children for life in the community.

Special classes for mentally retarded pupils, where they can be organized, should care for such pupils throughout their school career. Such classes for older pupils may well be housed in the junior high school, or even in the senior high school, where the instructor will have the advantage of varieties of materials to draw upon. The development of an adequate number of classes for mentally retarded pupils relieves the classroom teacher of the responsibility for making the adjustments numbered 4, 28, 30, 31, and 32 in the summary of adjustments given in Chapter VII, pages 262-264, so far as mentally retarded pupils are concerned.

Physical Defectives

The percentage of pupils with sufficiently defective vision or hearing to justify special class treatment is much smaller than the percentage that justifies special class treatment because of mental retardation. Such classes can not, as a rule, be organized without very high cost in communities of much less than 50,000 population.

The segregation of pupils for sight-saving work, or training

in lip reading, depends not alone upon the status of the pupil's sight or hearing at a given time. Authorities claim that it is the pupil whose sight or hearing is becoming progressively poorer who needs special attention. Candidates for such classes can be discovered by the general medical examiner, but the final decision as to which pupils warrant the special treatment given in such classes should be left to the specialist. Sight-conservation classes demand unusually favorable study conditions in the way of lighting, books printed in large type, use of heavy pencils in writing, and economy in use of the eyes in close work. In some schools, such pupils are sent to a special room for study, but do their class work with the regular class. In other schools, they are segregated for all of their work. Training in lip reading is frequently given by a special teacher who serves several schools.

The percentage of pupils who are predisposed toward tuberculosis, and who accordingly need the open-air treatment, varies considerably. The practice of cities which have attacked this problem in a thoroughgoing manner indicates that a community having a population of 10,000 may be expected to have sufficient children of this type to justify the adoption of special class treatment.

The number of crippled children demanding special treatment is smaller. Special classes for crippled children can rarely be developed with economy in communities of less than 50,000 population. Where these special classes can not be developed, the school should take steps to see that special treatment is made available to the individuals who need it. The day has passed when the responsibility for building a physically handicapped individual into an efficient member of the community can be neglected by the public schools. This is indicated in an interesting manner in the following editorial from *The World*, of New York, May 29, 1927:

John Dollard, Jr., of Far Rockaway is eighteen years old. Four years ago he was hurt by a train and his feet and the lower portion of his legs had

to be amputated. Working with artificial legs, young Dollard goes to school like the rest of the boys, and in a recent baseball game he was called in as reserve pitcher and pulled off a victory for his nine. This was something of a triumph for Dollard; but it is a good deal more than that. It is a cheering illustration of the way in which the prospects of the maimed for enjoying life like their more fortunate brothers have improved of late. The war aided greatly in the development and the more common use of artificial limbs — but the change is largely psychological. A generation ago a boy handicapped as Dollard is would have been doomed, quite as much by general feeling as by his hurts, to a sedentary life and pursuits. We know better now. We know that a boy who has lost his feet is still a boy, and by no means ready to mope in a corner. If he can pitch a good ball so much the better. He may dig the team out of a hole as well as the best of them. And be sure he is most welcome.

Recently, a crippled girl graduated from the high school of a small community near New York city. The only time that she was ever in the public school was the evening when she appeared upon the stage as a member of the graduating class. The instruction throughout her school life had been given by public-school teachers who were sent to her home by the public-school authorities.

An important aspect of the development of special classes of any kind is the provision of pleasant quarters. A decade ago it was the rule rather than the exception to place such classes in cast-off buildings or in poorly lighted and poorly decorated rooms. Such an environment had a depressing effect on pupils and teachers alike. Recently, it has become much more customary to provide special rooms under pleasant conditions for special-class children. One of the pleasantest schools that the writer has ever visited is a school for crippled children. Another is a school for all types of physically defective children.

The development of such special classes makes possible a really significant attack upon the most difficult of the adjustments listed as Number 16 in the summary of adjustments in Chapter VII, on pages 262-264.

Adjustment Rooms

An opportunity class in which the instruction is largely individual is helpful in providing many adjustments, particularly in the elementary and junior-high-school grades. It is especially helpful when it attacks successfully such problems as the following: (1) coaching pupils who, because of absence or other reasons, have fallen behind the class; (2) strengthening pupils in important aspects of work in which they have failed; (3) assisting pupils who have been given special promotion to cover essential features of work skipped; (4) helping pupils for whom special promotion is planned to cover sufficient advanced material to make the special treatment feasible; and (5) provision of enrichment opportunities. If it attacks all these problems successfully, it relieves the elementary teachers to a great extent of the adjustments listed in the summary in Chapter VII as 8, 9, 11, 13, 17, 18, 19, 22, 23 and 31.

It is rare, however, that a single opportunity class even attempts to contribute to all these adjustments. The success of such a plan depends upon an adequate diagnosis of needs and the availability of a resourceful and tactful teacher. The advantage of such a plan is that it concentrates the development of individual materials in the hands of a teacher who is expected to specialize in such work. It should be considered as a sort of departmentalized service to the regular classroom teachers. Many of the pupils in such a class should spend most of the day in the regular classrooms.

The disadvantage of the plan is the difficulty of administration. So long as the opportunity-class teacher is expected to handle only adjustments which are variations from the ordinary program, the problem of keeping in touch with regular class teachers is not difficult. The problem becomes difficult when the opportunity-class teacher is expected to provide coaching service in the regular day-to-day work of the class. Such a class is

doomed to failure when it is made a dumping ground for discipline cases and other poorly defined problem cases. Such groups may, in the hands of a skillful teacher, become helpful in the diagnosis of difficulties, but in many instances they are utter failures as opportunity rooms.

In communities not large enough to provide special classes for physical defectives, pupils needing special treatment may sometimes be cared for to best advantage in the opportunity class. In some schools too small to provide a special class for mentally retarded pupils, a class is developed for mentally retarded pupils and individual-adjustment pupils.

Special-Purpose Classes in High Schools

One of the most promising movements in the high-school field is the development of special-purpose classes. Pupils who, for one reason or another, have a common need are assigned to a class in which that particular need is met. The specific nature of the assignment makes the success or failure of the plan easily determined. The movement is one that deserves every encouragement because of the fact that the school work which results springs out of the recognized needs of boys and girls. The possibilities cover every adjustment in the list given in Chapter VII, from Number 13 on.

Short courses for correcting deficiencies. — As a substitute for the prolonged review of elementary subjects that characterized the traditional eighth grade, the plan of offering short courses in various elementary subjects to bring pupils up to grade has been taken by some junior high schools. Six-week courses are offered for pupils not up to standard in such subjects as penmanship, spelling, arithmetic, grammar, geography, and the techniques of reading. Pupils particularly deficient may be required to repeat such courses.

Somewhat similar schemes have been worked out in senior high schools for meeting the needs of pupils not up to standard

in the tool subjects. More and more, as larger numbers of pupils persist into the high-school years, there will be found pupils who can profit by such short intensive drill periods on tool subjects, such as reading, that are essential to success in their high-school courses. Such courses have the advantage of relieving the classroom teacher of the responsibility of the adjustment numbered 19 in the summary given in Chapter VII and making it a problem of program making.

The English adjustment room. — Another attack upon the problem of making up deficiencies of high-school pupils is the adjustment room for English deficiencies. High-school pupils who are deficient in their elementary English training in any respect are sent to the adjustment room, where they are given individual drill materials covering their particular deficiencies.

Diagnosis classes. — Large schools are able to organize special classes for pupils who, according to the judgment of teachers, are unable to master a subject. This permits the pupils to repeat a subject in a special class that may run for only a half semester. The pupils are tested thoroughly and allowed to work under the close observation of the teacher. When a pupil's difficulty has been removed — and it frequently is a very minor molehill that is proving a major mountain in the pupil's way — the pupil is changed to a normal class, but closely observed until there is assurance that he has become adjusted. Those whose difficulties are not discovered, are required to drop the subject.

This type of organization is a great aid to teachers in meeting the adjustment numbered 13 in the list given in Chapter VII.

Mid-term classes. — The freeing of teachers by the discontinuance of diagnosis classes at the middle of a term makes possible the setting up of classes for pupils who have entered late, or who are all-round failures in the work they have chosen. The beginning of a subject which none of them have had is a plan that is sometimes used to care for such pupils. This problem is a particularly serious one in those states that have compulsory

attendance laws that affect high-school attendance. The fact that there is a place to put truants when they are brought in to school late in a term is an incentive to bring them in. Where short courses, such as the broadening and finding and drill courses, are used, a program for such pupils may frequently be made up from a combination of such courses. Such classes contribute to the adjustments numbered 14 and 18 in the summary in Chapter VII.

College-preparatory classes. — In those sections of the country in which colleges commonly accept pupils on certification of the high school, there has been a tendency to neglect specific preparation for those pupils who wish to enter colleges requiring entrance examinations. Some schools are assigning one or more teachers to give such pupils the special preparation necessary to permit them to compete more successfully with pupils from schools that operate under the college-entrance-examination system.

Modified courses. — The last two decades have witnessed the introduction of a great variety of courses into the high schools. Along with this has come the modification of traditional and new courses to meet the needs of certain groups. This movement has made the task of the teacher in adjusting the class work to the varying needs of her pupils (Number 34 in the summary list) a much easier one. Along with the increasing variation in the needs that are accompanying the increased numbers attending high school, has come this device for assigning them into classes designed for their particular needs.

Here, again, the adjustments made in English, a subject commonly required of all pupils, is the best example. As one principal has put it, "English of some kind is required. It ranges from the time-honored literary type to the practical and applied."¹

¹ Stuart, M. H., "The Problem of the Ninth Year," *National Association of Secondary School Principals, Eleventh Yearbook*, 1927, page 127.

Classes for Exceptionally Bright Pupils

There have been a number of experiments in setting up special classes for unusually bright pupils. The tendency at the present time is to give such pupils a considerably broader curriculum, and to introduce new methods of instruction for them. Such special classes for the exceptionally bright promise to relieve the classroom teacher of problems of enrichment that are somewhat difficult.

PROBLEM 24

SPECIAL CLASSES FOR DEFECTIVES

How much assistance is brought to teachers by an adequate system of special classes for defectives?

A recent study of the special-class offerings in an eastern school system enrolling 15,000 school children made the following recommendations:

Increase in number of pupils in blind and sight-saving classes, from 0 to 23.

Increase in enrollment in classes for the deaf, from 10 to 20.

Increase in enrollment of cripples in special classes, from 0 to 20.

Increase in enrollment of other classes for physically defective children, from 0 to 35.

Increase in enrollment of classes for mentally defective children, from 108 to 375.

Assignment: 1. There are 450 teachers in this city. Describe the manner in which development of these special classes — (a) will increase the service to the children concerned; (b) will lighten the burden of the average teacher.

2. Using the same ratios to total enrollment, how many children in each of these groups are there in the school system with which you are most familiar?

3. How many defective children are there in the average classroom that need marked adjustment in classroom conditions?

PROBLEM 25

FUNCTIONS OF CLASSES FOR MENTALLY DEFECTIVE CHILDREN

What purpose should opportunity classes and special classes for mentally defective children serve?

The annual report of the superintendent of schools of a city of 30,000 population carries the following reports concerning special classes for mentally defective children and of opportunity classes:

Special Class Report

There is a difference between an Opportunity Class, so termed, and a class for Mental Defective Children. An Opportunity Class should be a class for slow or backward children, giving them a chance or an opportunity (hence the name) to catch up. On the other hand the Special Class should be for those children whose bowl is already full, as far as the elementary work is concerned, and who can only be taught handwork of various kinds.

In my class this year I have put some emphasis on the elementary subjects — Arithmetic, Reading, Spelling, Penmanship, and English — because some of the children seemed to have bowls which could hold more. Then, too, we accomplished some things along the handwork line, a summary of which follows:

12 chairs caned.

Back put in one large rocker and splinted the bottom of 6 chairs.

3 porch rockers resealed.

2 reed mats.

10 kites.

Animal toys and napkin rings from wood obtained through the kindness of Mr. Jackson, who also supplied us with glue and shellac.

1 taboret.

7 chairs repaired.

1 table repaired.

2 desks repaired.

2 tea towels embroidered and hemmed.

1 table runner embroidered.

3 burlap bags embroidered.

5 raffia hot-dish mats or plant-dish stands.

1 petticoat (started last year).

The money obtained from the chair caning bought the cane and paid the child for his work. The towels, mats, and bags were sold at the June Fête, the money going to the school funds.

The class as a whole is quite industrious. The older boys seem to delight in teasing the younger ones and the girls, but as a unit they get along with one another very well.

Clothing has been supplied to those in need in many instances by different ones.

Opportunity Class Report

This completes the tenth year in our opportunity classes. We have tried to make these classes of real value to the school system. The Monroe Class has taken care of about seventy children. From this number eight have been advanced to the grades. With one exception these have not been referred to us again. Fifty-one pupils have left this school during the ten years and are located as follows:

At work	25
At home	2
Married	5
In regular grades.	8
Institutions	1
Moved	8
Deceased	1
Hospital for cripples	1
Still in classes	20

Some will wonder what work these boys and girls may be able to do — any work within their scope of knowledge — work that requires supervision and little responsibility. Many are at work in our factories while we find the unstable type drifting from job to job.

The Monroe Class has taken care of sixteen children this year. Two of these were sent to 3A in February. Two children have been excluded on account of health conditions, one boy moved out of town, and two will be sixteen years old before the opening of the next school year.

This being a class of boys, our manual work has been very interesting. Five have become very proficient in caning chairs. Each boy receives fifty cents as an incentive for good work. We have caned thirty chairs, several stools, made taborets, bird-houses, kites, baskets from reed and raffia. Through the kindness of Mr. Brown of the Model Waist Company

enough rugs were obtained to keep us busy with rugs. For the past two years this class has been almost self-supporting. With the exception of warp for loom all other materials have been bought with money from products made.

The exhibit in May on work done by the opportunity class was an education to many. It brought before the public the type of education needed for these children. Looking forward to another year in a new building with both classes working together we hope to accomplish much more.

The vital problem before us now is the follow-up work needed. These children drift into a world they do not understand and which in turn does not understand them. They need supervision and guidance so that we will not meet so many of them in our courts and penal institutions.

Assignment: 1. Is the differentiation between opportunity classes and classes for mentally defective children satisfactory?

2. What indications are there that this differentiation and purpose has controlled the organization of the special classes and the opportunity classes in this school system?

3. From the type of curriculum offered in each of these classes, what type of children are being cared for?

4. What changes in policy would you recommend?

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CHAPTER X

ADJUSTMENTS IN ORGANIZATION AFFECTING ALL PUPILS

Broadened Curriculum in the Elementary School

AN important factor in making adjustments to individual differences is the breadth of the school curriculum. A broad school curriculum will have aspects that appeal to the interests and abilities of many pupils. Many of the adjustments suggested in Table 22 for fifth-grade pupils (pages 200-201) are adjustments in the way of broadening the school curriculum. The school that offers varied opportunities in music instruction would not only discover the abilities of more pupils, but would give them lines of development which could be easily directed. A pupil who is not able to participate successfully in singing may become an important member of a school orchestra, or he may participate in the making of simple instruments. The same holds good for arts, for shop work, for the social sciences, for the physical sciences, for literature, and for school activities of various sorts.

A school curriculum broader than normal would facilitate providing for the adjustments numbered 4, 9, 22, 24, 25, 26, and 30 in the summary in Chapter VII, pages 262-264.

Broader Curriculum in the Junior and Senior High Schools

Broadening and finding courses. — The broadening of the curriculum takes upon itself special significance in the year or years of the junior high school prior to the selection of the specialized programs which pupils are to carry through high school. A series of short courses are given in many schools throughout the seventh and eighth grades for the purpose of discovering

abilities, aptitudes, likes, and dislikes of pupils in the various lines of work open to them in their remaining school years. In some cases these courses are compulsory. In other cases, in order to increase the range of possible courses, they are made elective. Bruner,¹ who gave the first extended treatment of such courses, gives the following excellent presentation of the nature and purposes of such courses in the report of the Port Arthur School Survey.²

While the combination courses and the regular subjects mentioned above have many features of enrichment, the unique and distinctively junior-high-school feature suggested by the committee is the broadening and finding courses. These courses should be six and eighteen weeks in length — six weeks in the seventh grade and six or eighteen weeks in the eighth grade — and should be open to every boy and girl in these two grades. It should be the aim of these short courses to present glimpses of the future studies in the fields in which they are given, as well as to show the pupils the possibilities of the different professions and businesses of which each is a sample. In other words, these courses should be cross sections of later work. For example, the English-Latin broadening and finding courses offered by the Latin department should attempt to show the pupil what is in store for him if he continues his work in Latin in the senior high school, whereas the electricity broadening and finding course should present not only cross sections of the higher courses in electricity but also problems and possibilities of electrical work as it is carried on in the city and the nation. The junior-high-school pupil should be given the opportunity to sample practically every subject that is offered in the senior high school. For the sake of clarity a further example will be given in more detail.

The automotive department should offer six weeks of work to seventh-grade boys and six- and eighteen-week courses to eighth-grade boys. It should be the aim of the instructor of these courses to point out to these young pupils the possibilities of this subject, and some of the bright spots as well as the drab ones should be brought to the boy's attention. The youngster should be brought in touch with the joys and thrills of the ignition work and the motor, but he should also be compelled to experience the

¹ Bruner, H. B., *The Junior High School at Work*, Bureau of Publications, Teachers College, Columbia University, 1925.

² Port Arthur, Texas. *Report of the Survey of the Schools of Port Arthur, Texas*, Division of Field Studies, Institute of Educational Research, Teachers College, Columbia University, 1926. George D. Strayer, director.

difficulties and dirt found in greasing a car. The instructor's aim should be to paint for the boy an accurate picture of the automobile industry and of the automotive department in the senior high school. Incidentally, he, himself, should be trying to discover which boys in this broadening and finding course have aptitudes for automobile work and hence will make good grist for his more advanced courses.

All broadening and finding courses should be elective. Every pupil, however, should be compelled to take six in the seventh grade, and six, four, or two in the eighth grade. This scheme should enable a pupil to taste with profit eight to twelve different fields in these two years. For example, a boy in the seventh grade might take journalism for the first six weeks; typewriting, the second six weeks; science, the third six weeks; carpentry, the fourth six weeks; auto mechanics, the fifth six weeks; and machine shop, the sixth six weeks. In the eighth year he might take either six more entirely different six-week courses or three six-week courses plus one eighteen-week course in that subject which he seemed to like best of the nine which he had sampled in the seventh and low-eighth grades; or, if he and the school authorities thought it likely that he would drop out of school at an early date, he should be allowed to specialize by taking two eighteen-week courses, for example an eighteen-week course in auto-mechanics and another eighteen-week course in an allied field, such as machine shop.

Hence, it would be possible to take six broadening and finding courses in the seventh grade, six in the eighth grade, and to begin with the differentiated curriculum in the ninth grade; or to take six courses in the seventh grade, three six-week courses and one eighteen-week course in the eighth, and to differentiate in the ninth, or to take six in the seventh and two eighteen-week courses in the eighth and to differentiate in the ninth.

These courses have been called broadening and finding courses for when tried elsewhere it has been found that (1) through them many of the pupils find the later courses for which they seem to be best fitted, and in which their interest seems to lie; (2) in some instances they find also their life work, although this happens less frequently; and (3) whatever the finding, the pupils are profitably broadened by coming into contact with these different fields.

In order that the finding may be facilitated, part of the time of the shop courses should be spent in regular instruction in vocational guidance. For example, during the six-week broadening and finding course in automobile mechanics, the instructor should show the boys the kind of work they can do and the amount of money they can earn by qualifying for a job in a garage. He should also point out to them the greater amount of compensation in,

as well as the large amount of preparation necessary for, electrical engineering. There should be additional offerings in vocational guidance in the activity periods, where the possibilities in all fields should be more or less carefully discussed.

The chief aim of the broadening and finding courses and the chief value seem to be the broadening effect. While for purposes of finding, a more or less typical cross section of future school work or life work is portrayed, nevertheless an attempt is made to present only material which is in itself worth while. Hence, if the finding were reduced to zero quantity, which would be well-nigh impossible, the enrichment alone would more than justify the cost.

In order that pupils may select their broadening and finding courses with more intelligence, it is suggested that the high-sixth-grade pupils be permitted each semester to visit the broadening and finding courses in the junior high school some two or three weeks before the end of their work in the sixth grade. This procedure has the additional advantage of bringing about better articulation between the elementary grades and the junior high school.

Bruner proposes the following courses for the seventh grade:

Art	Mechanical Drawing
Auto Mechanics	Science
Cooking	Sewing
Electricity	Typewriting
Expression	Vocal Music
General Shopwork	Vocational Information for Boys
Instrumental Music	Vocational Information for Girls
Journalism	Woodworking

and the following courses for the eighth grade:

Arts and Crafts	General Repairs
Banking	Home Nursing
Bricklaying and Cement	Interior Decorating
Biological Science	Millinery
Business	Physical Science
Carpentry	Pre-Spanish
English-Latin	Printing
Forging and Sheet Metal	Public Speaking

A consideration of these courses is worth while in any school, no matter how small. In the very smallest schools, courses in

ILLUSTRATION 18

A. PUBLIC-SPEAKING CLUB IN A JUNIOR HIGH SCHOOL



B. SCRIBBLERS' CLUB



A weekly club period has become an established part of the programs of many junior and senior high schools. School clubs serve a variety of purposes. Among them are the broadening and finding purposes.

(Facing 321)

vocational information may be offered and high-school teachers may be called upon to do something in the way of rather extended introduction to their courses. Such courses contribute to the adjustments referred to in the preceding sections and to Numbers 31 and 32 in the summary of adjustments in Chapter VII.

Clubs. — School clubs meeting at a set time one or more times per week furnish another method of broadening the contacts of pupils with the school and its offerings, and of discovering latent abilities and interests. Many junior and senior high schools set an hour aside each week which all pupils are required to spend in a club of their choice. Such activities supplement the broadening and finding courses.

Illustration 18 shows two such clubs.

Variety of courses. — The successful meeting of the individual needs of all boys and girls of junior-high-school age and senior-high-school age demands that a variety of courses be available on the secondary level. If a variety of courses is denied, the problem of adequately meeting pupils' needs is insurmountable. The possibilities of carrying out the adjustments numbered 4, 9, 14, 22, 24, 26, 28, 30, 31, and 32 in the summary in Chapter VII are seriously curtailed. These courses must vary, from the vocational type courses that can be built into an adequate program for pupils of low academic ability or specialized interest along these lines, through the home-making and business courses, to the various types of courses for preparation for higher institutions.

Departmentalization

The adjustment to individual needs is not the chief purpose of departmentalization. Departmentalization has some bearing on the problem, however. It facilitates broadening the curriculum. It is easier to introduce new subjects if the instruction in those subjects is departmentalized, for it is easier to employ a teacher

specially trained to teach a new subject than to give the training to an entire staff.

To the degree that departmentalization attracts teachers who know more about their subjects, the enrichment of the course for individual pupils is facilitated. Similarly, the teacher who teaches the same subject to several classes can use the same adjustment materials over and over to a greater degree than the teacher who teaches a number of subjects to the same group of pupils. A large number of pupils with whom one teacher must deal under the departmentalized scheme, however, operates against making adjustments to individuals. When schools are departmentalized, there is more danger of neglecting those adjustments which are outside the ordinary curriculum.

Ability Grouping in the Elementary Grades

One of the most widely used administrative aids is ability grouping. A survey of ability grouping made by the United States Bureau of Education in December, 1926, shows that of 40 cities of 100,000 or more reporting, 36 employed ability grouping in some or all of the elementary-school grades. Similarly, of 90 cities of from 30,000 to 100,000 reporting, 66 are classifying elementary-school pupils of some of the grades into ability groups. In 163 cities of from 10,000 to 30,000 population, 145 have adopted this plan for some or all of the elementary-school pupils.

The purpose of ability grouping. — The purpose of ability grouping is to make possible the adjustment in wholesale fashion of class work to pupils of different levels of ability. The ablest pupils are able to carry more work, or to do the same work in less time, than pupils of average ability. If pupils of high ability are placed in the same class, the curriculum set up for all the group can be considerably broadened. Some of the pupils who would demand special attention in an ordinary class would be cared for by the work designed for the entire group. Similarly, if low-ability pupils are brought together,

the curriculum designed for the group as a whole will be within the reach of more of these pupils than the normal curriculum. Many of them will therefore require less individual attention from the teacher.

There seem to be some indications that pupils work better if there is not too great a range of ability in the group. There is more encouragement for effort if the least capable pupils in the group can, through exceptional effort, occasionally excel. This is to be contrasted with the usual situation in which low-ability pupils are kept from making a contribution to group discussion. Ability grouping tends to eliminate a situation where the pupil of comparatively low ability always has to contend with the depressing presence of individuals who have no respect for his thinking. Equal advantages for the able pupils are also claimed. They are placed in situations where they can not so readily meet requirements with superficial thinking. They are stimulated by the presence of their peers to do work worthy of their mettle.

In brief, the purpose of ability grouping is to assist in making adjustments numbered 1, 2, 4, 7, 9, 10, and 11 in the summary in Chapter VII. Ability grouping is sometimes used to assist in making adjustments numbered 3 and 12.

Types of ability grouping. — The variety of plans used for the grouping of pupils may be considered as falling under two main heads: (1) grouping in such a manner that the members of a class will fall as nearly as possible together in their achievement in school subjects and will remain as nearly as possible together during the term; and (2) grouping according to innate ability for the purpose of adjusting the breadth of the entire curriculum, or the rate of progress through the given curriculum, more or less regardless of the nearness to which pupils fall together in a given subject.

(1) *The attempt to obtain homogeneous working groups.* — The first of the above plans requires a consideration both of status in school subjects and ability to work at different rates. Those

who have worked most seriously to attain this result in the elementary school under ordinary conditions have proposed that children first be placed in grades according to educational status, and then be grouped within the grades according to brightness. Accordingly, mental age and educational age have been proposed as bases for grade classification, and the I. Q. as the basis for classification within the grade. The assumption is that pupils within a narrow range of educational age or mental age would be at approximately the same level in each of the school subjects. That is, beginning a given term, all the pupils in a grade would be approximately together in achievement, and those of the same brightness would move from this point at the same rate, and would therefore stay together.

But such a grade classification is entirely out of keeping with the analyses made in the preceding chapters, even if it would result in grouping children according to achievement. Children should not be grouped in grades by either educational age or mental age without regard to other facts. A proper regard for other points results in each grade level having children with a wide variety of achievement, just as grades have always had, in spite of an overliberal use of repeating. But it has been demonstrated that even if it were desirable so to group children in grades, it would not result in like achievement in the various school subjects.¹ The grouping within a grade must therefore result in variation in achievement in school subjects, so that grouping according to ability within the grades does not result in groups that are homogeneous in achievement in individual subjects. This is equally true if an attempt is made to group children according to a combination of measures of achievement and brightness. The result is some decrease, but not a marked decrease, in variation in individual subjects.

The only objective evidence upon the relative values of various

¹ Hollingshead, A. D., *An Evaluation of the Use of Certain Mental and Educational Measurements for Purposes of Classification*, Bureau of Publications, Teachers College, Columbia University, 1928.

measures is that given by Hollingshead. It points to the conclusion that the best single measure for this purpose is not a brightness measure (educational quotient, intelligence quotient, or the average of the two) nor the measure of mental maturity (mental age), but rather the average educational status (the educational age).

If the work is adjusted to the different levels of ability obtained in this manner, some of the adjustments indicated in the summary in Chapter VII will be cared for automatically. Those adjustments demanded by a pupil's variation from the average achievement in a subject will be partly or entirely met, if his variation from the average of his group in an individual subject is in the same direction as his variation from the average in educational age. In other words, many of the adjustments numbered 7, 8, and 18 in the summary in Chapter VII will be cared for. In some cases, the individual will vary so much in a given subject that the adjustment to the class as a whole only partly meets his needs. Less frequently, the adjustment made to the class as a whole will be of the opposite kind from that needed. Inasmuch as the basis for dividing the group is in a slight degree a measure of the amount of work to be done by the group, it will be possible, if it is desired, to give the abler group added activities, and thereby care for some of the individuals needing adjustments along such lines as are indicated in Table 22, pages 200-201, by the symbols a, b, and g.

(2) *Grouping according to innate ability.*—The plan that groups children according to their innate ability, regardless of their achievement in individual subjects, meets the adjustments numbered 2, 9, 10, and 11 in the summary in Chapter VII, pages 262-264, better than the other plan. In a sense, this plan does not attempt to get children together in like teaching groups, but instead attempts to put children together according to the sum total of their capacity to carry school work. The indications are that this type of grouping does not group

children so closely in individual subjects, so that it does not meet so well the needs numbered 1, 7, 8, and 18. It recognizes that some of the pupils in a bright group, for one reason or another, will be poorer in certain subjects than some pupils in the average or even the below-average group. However, unless such a pupil is falling uniformly below his capacity, he will have time to give such a subject extra time, and still carry an enriched program. If, for any reason, such a pupil falls below the class as a whole in his educational achievement, he may be assigned temporarily to a lower group, for instruction, but still remain earmarked as a member of the abler group and be expected to rejoin the abler group.

This type of ability grouping takes the emphasis from the ease of instruction of an individual subject, and places it upon the problem of developing a curriculum which as a whole is regulated to the capacity of the group. Not only will changes in the content of the individual subjects and the methods of instruction of individual subjects vary as a result, but different subjects may be introduced. In one of the public experimental schools in the city of New York, for example, the brighter students even in the lower grades are receiving instruction in French in addition to the enriched regular courses. The brighter pupils in the upper grades (grades five and six) are being taught by the individual method on a departmentalized basis half of the day, and have group work in freehand drawing, music appreciation, and industrial arts.

Intelligence quotients are frequently used as the only measure to determine innate ability or capacity. This is justified when they have been obtained from individual tests, given by a competent tester, or from two or more group tests that agree or confirm the judgment of teachers. In some cases, the intelligence quotient is averaged with the educational quotient. This gives an average of two estimates of mental ability: (1) the intelligence quotient determined by comparing the pupil's estimated mental age with his chronological age, and (2) that obtained by com-

paring his achievement in school subjects expressed in age with his chronological age. The introduction of the educational quotient as a measure of mental ability affects the pupil's placement only when this measure varies from the I. Q. If it is higher than the I. Q., it indicates that there is a combination of abilities, attitudes, and other factors which have resulted in this pupil's doing better than would be expected from the mental test alone. If the educational quotient is lower than the I. Q., it indicates that through some combination of circumstances this pupil has not done so much in the past as has been expected of him. In other words, his I. Q. is not a good measure of what he has done in the past. His failure to achieve in the past may be due to conditions that may be corrected, and this should be a point for investigation. At the same time it is well to consider the fact that results in the past constitute a fairly good index of future results. Inasmuch as it is capacity to do work which we are attempting to measure, it would seem to be fair to the pupil to consider his educational quotient in measuring his mental ability.

A pupil's capacity to carry a program at any given time is also affected by his total educational status. A bright pupil may be low in one subject, but, because of high standing in another, may be able to give the low subject the additional time it demands without reducing his capacity to carry a broadened program. If, however, he is markedly below his group in average achievement as indicated by his educational age, it may be found desirable to deny him participation with his ability group until he has brought up his average achievement. On the other hand, in some cases it will be found desirable to expect this pupil to make the extra effort necessary to work satisfactorily with his group, or to work with his ability group but be denied the additional activities in which they participate. Such cases should be dealt with in the light of further knowledge of the individual, rather than by a wholesale attempt to average brightness measures with measures of educational status.

There will be fewer of these adjustments when the educational quotient is averaged with the intelligence quotient to obtain the measure of ability.

Two methods of determining the division points between sections. — The administration of ability grouping in elementary schools has followed two distinct trends, each of which has its advantages and disadvantages. The one plan is to designate each pupil as an X, Y, or Z pupil. Pupils with I. Q.'s of 110 or more are called X¹ pupils. Pupils whose I. Q.'s range from 90 to 110 are designated as Y pupils. Pupils with I. Q.'s below 90 are designated as Z pupils. In a normal group of pupils, one fifth would be X's, one fifth Z's, and three fifths Y's. If there are five sections of a class in the school, there will be a section of X's, a section of Z's, and three sections of Y's. If a school has less than five classes in a grade, it is not feasible to have the X's segregated. This is often true if there are more than five classes.² Where this plan is in operation, there will usually be two types of pupils in the same room. If there are two classes in the school, one teacher will have X's and Y's, while the other has Z's and Y's. Likewise with various relationships between the numbers of the different types in the larger schools.

In the other plan of ability grouping, the number of ability groups formed is determined by the number of classes in a grade in the given school. If there are two classes of low-fifth-grade pupils, one teacher takes the brighter half of the group and the other teacher takes the duller half. If there are three sections, a similar division is made. Sometimes as many as five or six ability groups are formed. Each teacher thus obtains a group of pupils as homogeneous as to grouping as the size of the school permits. He is expected to work with the group as a whole, adjusting his work to the ability of the group.

¹ Practice varies with respect to this designation. In some school systems the high I. Q. pupils are called Z's, while the low I. Q. pupils are called X's.

² This assumes normal distribution. In actual practice one third or even one half of the pupils in a school are sometimes found to belong to the X or the Z group.

ILLUSTRATION 19
FREEHAND DRAWING IN THE LYNN SCHOOLS
A Composition in Color Based on Stevenson's "Treasure Island"



Music, art, literature, industrial arts, and plastic arts provide rich possibilities for broadening the school life of boys and girls.

(Facing 328)

The only essential difference between the two plans is that in the X, Y, Z grouping plan, the teacher is expected to adjust his work to two or three ability types of children. If he receives a group of 10 X pupils and 30 Y pupils, he is expected to give the X pupils the X curriculum and the Y pupils the Y curriculum. With the operation of the other plan, the teacher would receive the same class but would have no line drawn between his 10 X pupils and his 30 Y pupils. He could, if he wished, divide his group into X's and Y's, or he could teach them as a single group of somewhat better than average ability.

The latter plan would obviously be easier if it were not for the problem of curriculum adjustment. When the teacher becomes accustomed to the X, Y, and Z division, a division that always means the same thing, he can learn to think in terms of curriculum materials adjusted to these three groups. When the new term comes, he may have a different distribution or he may have a different proportion of Y pupils, but they will be Y pupils. The difference in the proportion will not demand of him a curriculum peculiar to that particular proportion of Y pupils. In other words, while the X, Y, Z plan sets up somewhat artificial lines which require the classroom teacher to break up his group for instructional purposes, it facilitates the development of curriculum materials for bright and dull pupils.

The X, Y, Z plan facilitates the keeping of records and the accounting for results. A system with the X, Y, Z grouping plan, particularly if that system provides a differentiated curriculum for the X, Y, Z groups, can measure results in different terms regardless of whether the school is so small that there are two grades to the teacher or whether it is a large school with many classes in each grade.

The X, Y, Z plan is a halfway step which is justified by the fact that we have not yet learned to adjust curricula with as much readiness as we have learned to measure differences in abilities. A combination of the two plans would seem to be

advantageous. A teacher who finds it advantageous to break his classes into sections for instructional purposes will not be hampered by the strict use of the X, Y, Z plan. A teacher who can get better results by dealing with the class as a single unit for instructional purposes should find it possible to make the necessary variations in the curriculum that most nearly fits his group.

CHART 45

Enrichment of school opportunities — Information bearing upon the adjustment of a low-fifth-grade pupil who is brighter than the average pupil in the section in which he is placed

Date of birth March 12. Present Age 9 Years and 0 months. Entrance grade in this school system 5
 Entrance grade in this school 5. Half years spent in kindergarten 0. Grades skipped 0
 Grades repeated 0. Do you expect to go to high school? Yes College? Yes What do you
 want to do when you finish school? Do not know Do you take music lessons outside of school? No
 Other lessons, if any, outside of school No Member of the following school
 teams or other organizations: No Outside organizations: No

Enrollment of this class 40 Type of class Average
 Draw a line through each item in which this pupil is one of the best 5 in his class, encircle each item in which this pupil is one of the poorest 5 in his class
 1. General ability 4. Health 7. Nature Study and Science 10. Arithmetic 13. Spelling
 2. Mechanical ability 5. Leadership 8. Language Usage 11. History 14. Music
 3. Attitude toward work 6. Reading 9. Freehand Drawing 12. Literature 15. Shop Work
 Physical defects of this pupil: None Does the program of this pupil vary from that of the
 class as a whole, either in subjects, assigned activities, or assignments? (Specify on Reverse)

Variation from Normal Weight	5+7	Scores	Age Equiv- alents	3	4	5	6	7	8	9	10	Grade
I. Q.	E. Q. 106	Average 109		8	9	10	11	12	13	14	15	16 Age
Chronological Age			10-10									
Height			11-6									
McCall Multi-mental Test, Form I		211	12-0									
Stanford Achievement, Advanced, Form A		46	11-6									
Reading, Paragraph Meaning		70	12-11									
Reading, Sentence Meaning		44	12-5									
Reading, Word Meaning		42	11-9									
Arithmetic, Computation		44	8-11									
Arithmetic, Reasoning		69	12-5									
Nature Study and Science		41	11-7									
History and Literature		30	12-2									
Language Usage		24	12-4									
Dictation Spelling		94	11-2									
Stenquist Mechanical Aptitude, Test I												
Social Background		30	12-7									

— Test and other records of pupil.

... Average test scores of the section to which this pupil is assigned.

This Pupil's Answers to Certain Questions

1. What book do you like to read best?

King Arthur

2. About how many books are there in your home?

50

What ability grouping does not do. — Regardless of the method used in ability grouping, teachers should not look to it as more than a convenient aid to the solution of the problem of meeting individual needs. It appears from the discussion that ability

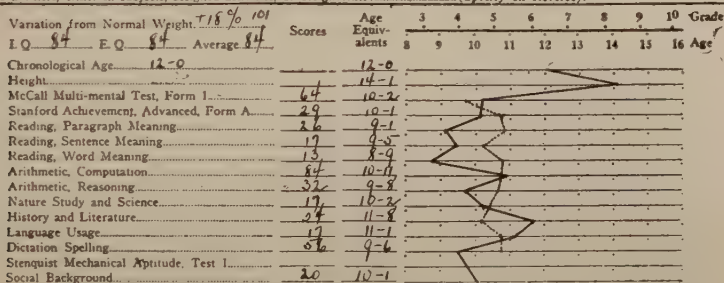
grouping gives no assistance in more than half of the adjustments listed in our summary on pages 262-264. Even in the adjustments to which it contributes most, there is individual work left to do. This is demonstrated by Charts 45 and 46.

CHART 46

Need of coaching — Information bearing upon the adjustment of a low-fifth-grade pupil who according to the tests in school subjects was below the average of the section in which she is placed

Date of birth Dec. 29, 1913 Present Age 12 Years and 0 months. Entrance grade in this school system _____
 Entrance grade in this school _____ Half years spent in kindergarten 0 Grades skipped L1-H1
 Grades repeated TL Do you expect to go to high school? Yes College? Yes What do you want to do when you finish school? Be School Teacher Do you take music lessons outside of school? No
 Other lessons, if any, outside of school No Do you take music lessons outside of school? No Member of the following school teams or other organizations _____ Outside organizations No

Enrollment of this class 39 Type of class Orange
 Draw a line through each item in which this pupil is one of the best 5 in his class, encircle each item in which this pupil is one of the poorest 5 in his class:
 1. General ability 2. Mechanical ability 3. Attitude toward work 4. Health 5. Leadership 6. Reading 7. Nature Study and Science 8. Language Usage 9. Freehand Drawing 10. Arithmetic 11. History 12. Literature 13. Spelling 14. Music 15. Shop Work
 Physical defects of this pupil Quarrelsome, Selfish, Sensitive Does the program of this pupil vary from that of the class as a whole, either in subjects, assigned activities, or assignments? _____ (Specify on Reverse)



— Test and other records of pupil.

..... Average test scores of the section to which this pupil is assigned.

This Pupil's Answers to Certain Questions

- | | |
|--|---------------------------------|
| 1. Do you like to read? | Yes |
| 2. What book do you like to read best? | Mrs. Wiggs of the Cabbage Patch |
| 3. About how many books are in your home? | 3 |
| 4. Do you have a piano in your home? | No |
| 5. What magazines do you read most? | I don't know |
| 6. How many times a week do you attend the movies? | Seven times |

Chart 45 shows the record of a low-fifth-grade pupil compared with the average of one of the average-ability sections of the grade to which he belongs. He is considerably brighter than

the average pupil in the section. His attainment in school subjects is a half year above his class average. He falls below his group in arithmetic computation only. An analysis of his deficiency shows that it could possibly be removed by a small amount of individual instruction. Clearly, with this removed, the pupil will have time which may well be spent on added, worth-while activities, over and above the time so spent by the class as a whole.

Chart 46 illustrates a need of adjustment in the other direction in the case of a pupil assigned to the lowest of five ability sections in a grade.

The fact should not be overlooked that the above discussion has assumed that adjustment in curriculum and methods has accompanied ability grouping. When this is not true, most of the good claimed for ability grouping as an adjustment to individuals does not materialize. A very large part of the ability grouping that has been practiced has been simply mechanical grouping of children. Teachers have not been given the necessary aid in many instances in making the adjustments in curriculum and method assumed in this discussion.

Ability Grouping in the Junior and Senior High Schools

Variation from use in elementary schools. — The description of ability grouping in the preceding section applies to the seventh and eighth grades in the traditional school, and to the seventh grade, at least, in the junior high school.

The breaking up of the curriculum into a number of optional courses in the eighth or a higher grade is accompanied by a series of conditions which affect the usefulness of ability grouping. The simple method of ability grouping used in the elementary school can not be used without sacrificing the welfare of individual pupils. All pupils no longer follow the same curriculum. The high school which offers a half dozen curricula for graduation divides its pupils into as many more or less independent

groups, each of which will have a range of ability approximating the total range found in an undivided high school. But the solution of our problem can not come through ability grouping of pupils within a given curriculum. We find that differences in special interests, in the length of time pupils expect to remain in school, and in both educational and occupational expectations, have become of such importance as legitimately to demand a great variety of markedly different programs among the pupils pursuing a given curriculum. It is not unusual to find in a ninth-grade class as many as fifty individual programs, varying in the number of subjects pursued, or more or less markedly in the subjects themselves.

Grouping must be done in terms of individual subjects. Pupils pursuing a given subject are grouped according to their ability in that subject, regardless of the fact that their purposes in taking the subject may differ in a marked degree.

Purposes of ability grouping. — As in the case of the elementary school, the purposes are to simplify the work of the teacher by reducing the range of ability with which he has to deal, and to improve the service of the school to individual needs, through various types of adjustment facilitated by ability grouping. The types of adjustment may be classified as (1) adjustment in the time spent on a given unit of subject matter, (2) adjustment of subject matter, (3) adjustment in method, and (4) adjustment in the pupils' programs.

(1) *Adjustment in time.* — In some cases the adjustments have been made in terms of the number of semesters spent on a given amount of subject matter; as, for example, covering three half-years of work in a subject in a single year, or covering two half-years of work in a year and a half. Such adjustments have for the most part been unsuccessful in their actual operation because of the difficulty of keeping a group of children together. Turnover in school population and variations in the programs of individual pupils rapidly deplete such groups. Apart from

this mechanical difficulty, the question may well be asked whether such adjustment in time is desirable even if it could be carried out successfully. The same pupils who are doing three half-years of the subject in a year could gain the same amount in acceleration by carrying an extra subject. This is certainly a process much less difficult of administration. On the other hand, the pupils who are retarded by being required to spend more than a normal amount of time on a unit of subject matter may be given the additional time for such subject matter by a reduction of the number of subjects they are carrying. There is no question about the possibility of grouping children to go at a higher than normal rate if it is desired, but the administrative difficulties are large in the high-school grades. Adjusting the time to low-ability pupils is particularly difficult. The following description of an attempt under the writer's supervision to carry a class over two semesters of algebra is typical:¹

An attempt was made to cover only about three fourths of the first semester of algebra in a satisfactory manner by this group (lowest of five ability sections), with the idea in mind of reassigning them to the same class for the two succeeding semesters, eliminating the failure element as far as possible, and completing the two-semester course in three semesters of successful work.

The third semester of this work has been completed, the class having been under the instruction of the same teacher for three semesters. Several points of interest have come out of this experiment. In the first place, students who successfully mastered the work that was covered the first semester were the only ones who were recommended for the class the second semester. Those who were recommended to this class seem to be as happy over it as students actually passed in the semester's work. The others showed more concern than the average failing student. This augured well for the success of the class. During the second semester the students were enthusiastic for the greater part of the term but showed a growing tendency to become erratic. By the end of the third semester all but four

¹ Arsenal Technical Schools, Indianapolis, Ind. *Results from the Homogeneous Grouping of Students According to Ability — The Grouping of Those Students in Mathematics Who Were Assigned to Exceptional Ability or Particular Difficulty Classes.* An unpublished report of the Research Committee, May, 1922.

of the original class had withdrawn, transferred to other schools, or failed. Of those still in the class but two finally received their credit in second-semester algebra. This would seem to indicate, especially in the light of the results obtained from the special class for failures in second-semester algebra, that slow-rate classes in beginning algebra are not worth while.

This same report gives data on eight double-rate classes in second-semester algebra. These algebra pupils were those with generally high rating in all subjects. They represented approximately the best 5 per cent of beginning algebra students. Of 226 completing a semester's work, 138 were granted credit for both second-semester and third-semester algebra. This experiment extended over five semesters.

This indicates that little hope may be expected from ability grouping so far as adjustment numbered 3 in our summary list on pages 262-264 is concerned, but that it can be used with some success for number 12.

(2, 3) *Adjustment in subject matter and method.* — Theoretically, adjustment in subject matter would appear to be more desirable than adjustment in time. Unhappily, however, very little has been done in the way of setting up criteria for determining the desirable nature of such adjustment in subject matter. The most helpful suggestions come from the type of work discussed under *Special-Purpose Classes* on pages 309-311, in which the outstanding criterion for setting up groups is not native ability, nor even readiness of pupils to do the subject at hand, but rather the educational needs of groups of children determined from a variety of considerations. For example, it is conceivable that the most useful type of grouping in mathematics would not be a grouping based on the ability of pupils but rather a grouping based on the fact that some pupils expect to continue mathematics in college and some have need to apply mathematics in other subjects. It is entirely conceivable that the pupil of high ability may have the adjustment to his high ability made in the development of his program rather than in the

adjustment of the work in one or more of the individual courses making up the program. From this viewpoint, ability grouping as such becomes of little usefulness as soon as the programs of individual pupils begin to vary in a marked degree.

The advantage that comes from having several sections in a subject, each with adjustments in subject matter, is offset in all but the very largest schools by an administrative difficulty. Where there is not a sufficient number of sections to make it possible to have all the types of sections meet at the same hour, ability grouping serves as a positive hindrance upon the choice of different subjects. One of the advantages that comes from having large schools is the possibility of having sections of the same class meet at different hours during the day. This increases the number of courses which may be selected in developing individual programs. For example, if there is but one section in a grade of mathematics which a given pupil needs, it will be impossible for him to carry any other subject which may be scheduled for the same period. If there are several sections, such conflicts may be avoided. If, however, each section of a class is specialized for a particular type of pupils who need a given subject, the advantage which arises from having several sections of a class is lost. In all but the very largest schools, and even in the higher grades of the largest high schools, this difficulty must be considered. It progressively reduces the value of ability grouping as an adjustment to individual differences as pupils proceed from the lower to the higher grades of the junior and senior high schools.

The most indefinite type of adjustment is the adjustment in method. It is accordingly the most difficult to evaluate. Such adjustment is commonly left to the individual teacher. It is possible that from the adjustments which the individual teacher finds it possible to make, as well as from the influence on individual pupils working in homogeneous groups, the greatest returns from ability grouping may be derived. Attempts to

measure its effect, however, have not as yet been very successful. Only when the types of adjustment which teachers find possible to make are described with as much definiteness as is found in such a work as the *Promotion Standards for X, Y, and Z Groups in the Detroit Elementary Schools* may we expect worth-while results.

The adjustment in subject matter has a bearing upon the adjustments numbered 2, 7, 9, and 34 in the summary list on pages 262-264. The adjustment in method has a bearing upon those numbered 1 and 10.

There is not a great deal of evidence as to results where the adjustment proposed is in method, or breadth of subject matter. What there is, is not very encouraging. From a rather extensive study Moyer¹ concludes:

. . . we find that the superior and medium pupils appear to do somewhat better in segregated than in mixed classes. The inferior pupils, however, do not appear to benefit by segregation so far as their scores on the standard tests are concerned.

From a somewhat more extended study, another attempt at appraisal is given in an unpublished report² of a three-year experiment carried out under the supervision of the writer. The results, while they do not agree in detail with the results given by Moyer, nevertheless are like them in showing only small benefits. In first-semester algebra, combinations of intelligence tests and high-eighth-grade teachers' marks and ability ratings were used for grouping. The test used varied from semester to semester. The Pressey and the Terman Intelligence Tests, and the Rogers Mathematical Ability Test were used. Results were measured in terms of percentage of failure of 2886 pupils, of

¹ Moyer, E. L., "A Study of the Effects of Classification by Intelligence Tests," *National Society for the Study of Education, Twenty-third Yearbook*, Part I, page 322.

² Arsenal Technical Schools, Indianapolis, Ind. *Results from the Homogeneous Grouping of Students According to Ability—The Grouping of Those Students in Mathematics Who Were Assigned to Exceptional Ability or Particular Difficulty Classes*. An unpublished report of the Research Committee, May, 1922. The tables from the report are reproduced in Strayer, Engelhardt, and others, *Problems in Educational Administration*, pages 491-498.

whom 1881 were in mixed groups. This was supplemented by a test especially designed to bring out the adjustments teachers believed they were making. It was given to 337 children, 29 of whom were in mixed classes. This was further supplemented by Rugg and Clark, and Stromquist tests given to 158 pupils, 97 of whom were in mixed classes. The results are summarized as follows:

As a whole these data favor homogeneous grouping slightly for the good or mediocre students and considerably for the poor students.

The data available are certainly not against homogeneous grouping even if not convincingly for it. We can not, however, accept or condemn the plan until it has been given a fairer chance. The grouping devices were far from satisfactory, so in many cases the number of shifts required to correct the conditions were so great that teachers hesitated to make the corrections and they were not unduly urged to do so. Perhaps with more exact differentiation at the beginning, the plan will become more satisfactory.

There has been a feeling, however, that since so much of the first semester's work is that of mastering language or getting a background, from the teachers' standpoint there is not the need to differentiate that presents itself in the second semester's work, where it is almost altogether the mastery of processes. Feeling that this might be sound and realizing the shortcomings of our differentiation device, beginning the second semester 1920-1921 we have taken out only the good students, making but two types of groups.

In second-semester algebra, the first-semester teacher's ratings in algebra were used for grouping. Results were measured in terms of percentage of failure of 2387 pupils, 874 of whom were in mixed classes. This was supplemented by an achievement test devised by a committee of mathematics teachers, and given to 233 pupils, all but 11 of whom were in ability sections. Results were studied for each type of student. The average mark granted pupils was also studied. The results are summarized as follows:

From the foregoing we may conclude that homogeneous grouping in second-semester algebra is valuable not only from the standpoint of decreasing the percentage of failure but also from the standpoint of actual attain-

ment of each type of students. We may conclude also that the value of homogeneous classes in second-semester algebra increases with the number of types of sections formed, at least up to four types. The results from January, 1922, however, indicate that the advantages seeming to come from grouping, if they do come from grouping, are not so great as to be unaffected by unseen variable elements in teacher, grouping, or administration.

In second-semester geometry, for the first two semesters pupils were differentiated on the basis of ability ratings given by first-semester geometry teachers. Thereafter marks given by the teacher of first-semester geometry were used. In the comparison of failure, 1712 pupils were used, 928 of whom were in mixed classes. This was supplemented by an extensive test given to six ability sections and three mixed sections.

A committee of the department worked out the series of tests designed to discover the elements that were supposed to be affected by grouping. The minimum test had for its purpose the testing of the mastery of fundamentals. Theoretically, less attention being taken for misfit pupils, homogeneous classes should give more drill on subjects most needed by the group. This, it was believed, could be tested by a series of questions of such brevity that quicker reaction brought about by more drill would tell on the number of questions answered. The maximum test had for its purpose the testing of elements outside the minimum requirements of the course. Theoretically, the good student would have more opportunity to go beyond the minimum essentials if placed in a homogeneous class.

The results are summarized as follows:

We may conclude then that there is some tendency for the homogeneous grouping to pay in the second-semester geometry, but for the most part the value is to the mediocre student. Further, we may conclude that more attention should be paid to relative standards for marking.

The following quotation from the same report raises other important questions in judging grouping.

Although the foregoing discussion has dealt with the results of grouping purely from the standpoint of achievement of students, there are other criteria for judgment that are of importance. Approaching the problem again from the standpoint of students, we may point out the desirable effect on development of right habits of work that may be expected from grouping.

Also, there would seem to be a greater opportunity for the development of leadership. We have worked out no method of measuring results in either of these lines.

From the teacher's viewpoint the effect of grouping on the effort required in teaching a given amount of subject matter is of importance. For studying this we have the judgments of the teachers. Most of the twenty-five teachers in the mathematics department have worked with a number of grouped classes during the five semesters of experimental work. With but two or three exceptions they report that under the grouping plan less effort is required to teach a given amount of subject matter. The exceptions report no noticeable difference in this respect. The teachers concerned considered this point of enough importance to justify continuation of grouping in second-semester geometry, in spite of the rather poor showing as to attainment reported in the preceding section.

Obviously, if any great aid in meeting individual needs is to come from the adjustment of subject matter and method through ability grouping it must come from more effective programs than those reported here.

(4) *Adjustment in pupil programs.* — There is a simple type of adjustment that appears to combine the advantages of all the types described above, but has not to the writer's knowledge been in use. This plan considers the need of variation in method to be used with pupils of different ability covering the same subject matter, and the possibility of varying the time required for a subject according to ability. It facilitates enriching the program of abler pupils. This plan calls for the reduction of the number of recitation periods for the bright pupils and the introduction of supervised study for the pupils of less than average ability. It appears feasible to expect the highest fifth of the group to do in three periods the work to which five recitation periods are usually given. This would gain time for bright pupils to carry an additional subject requiring two periods a week. Pupils of normal ability would spend a normal amount of time. Pupils of less than normal ability would spend one or two double periods a week with the teacher for supervised study and instruction. The highest fifth of the pupils would spend

three periods a week with the teacher, the second fifth four periods a week, the middle fifth the normal five periods a week, the fourth fifth six periods a week, and the lowest fifth seven periods a week. As will be seen, the cost of such instruction will be exactly the same as the normal cost. Such a plan might well be used where no adequate reason can be advanced for making a marked difference for pupils of different abilities.

The chief disadvantage of the plan would seem to be that reducing the number of periods each week spent upon a subject by bright students would conflict with college-entrance requirements. With the increasing liberality in interpretation of such requirements, it should not be difficult for a school wishing to make this type of adjustments to obtain the sanction of the authorities concerned.

Ability grouping of this type will contribute to caring for the adjustments numbered 1, 2, 7, 9, and 12 in the summary on pages 262-264. The contribution to enrichment (Number 9), or acceleration (Number 12), comes from the opportunities it gives pupils for taking additional courses.

Bases for ability grouping. — (1) *In beginning classes:* The most commonly used methods for original classification in school subjects are intelligence tests and school records, including teachers' marks and ability ratings. None of these methods are highly successful in grouping pupils into homogeneous groups, but they provide a good beginning which can be corrected by shifting pupils. Intelligence tests, for example, are about as closely related to term-end marks as are the marks given by teachers at the end of six weeks' experience with the children. An intelligence test at the beginning of a term, therefore, gives as good an estimate of what a pupil will do as the teacher can give after having the pupils six weeks.

Attempts to develop specialized tests for high-school subjects have not given results sufficiently superior to the results from intelligence tests to justify their use in ability grouping.

There is a difference of opinion as to whether the I. Q.¹ or the mental-age score from the intelligence tests should be used in grouping in high school. Until more conclusive evidence is gathered those wishing to use this measure may well choose the one that is the more convenient and be on the lookout for exceptional cases. The outstanding exceptional cases are the underage bright pupils placed too low on the basis of mental age and too high on the basis of I. Q., or the overage dull pupils placed too low on the basis of brightness, but too high on the basis of maturity. The use of either measure coupled with the proper attention to individual cases will give better results than a blind use of the one of the two measures which proves to be better.

School records themselves deserve more attention than they have been given in actual practice. Kelley² demonstrated their value many years ago.

Ross,³ in his study of prognosis by use of school records, succeeded in eliminating the measures that fluctuated from year to year, with a result that appears to be quite stable. Ross's results for a composite of grade-school records are considerably better than the intelligence results and appear to be reliable.

The factors which Ross found to be of importance in predicting success in one or more of three high-school subjects are as follows:

Factor	Subject to which Related	
Age at end of Grade 8	English	Latin
Grade Progress	Latin	Mathematics
English, Grade 4 to 6	English	Mathematics

¹ The I. Q. becomes less valuable as a measure of brightness as a pupil approaches the age of 16. After that age there is no difference between the mental age and the I. Q. because of the fact that for an individual more than 16 years of age the mental age is always divided by 16 to give the I. Q.

² Kelley, T. L., *Educational Guidance*, Bureau of Publications, Teachers College, Columbia University, 1914.

³ Ross, C. C., *The Relation between Grade School Record and High School Achievement*, Bureau of Publications, Columbia University, 1925.

English, Grade 7 to 8	English	Latin
Arithmetic, Grade 7 to 8	Latin	Mathematics
Special Subjects, Grade 7 to 8	English	Mathematics
History, Grade 5 to 6	Latin	
Days Present, Grade 2 to 3	Latin	Mathematics
Days Present, Grades 4 to 6	Latin	

(2) *In classes that have had previous work in the subject:* Teachers' marks are used most for grouping pupils in a second or later term of a subject. What investigation is available appears to indicate that teachers' marks in a subject are not improved as a predicting measure in any degree, either by marks in other subjects or by ability ratings given by the teacher. There is also some doubt as to whether what is gained from tests developed for the purpose of predicting success improves the grouping sufficiently to justify the time and trouble.

Individual Instruction

Nature of individual instruction. — The term *individual instruction* covers a wide range of methods of classroom administration. There has always been considerable individual instruction in our schools. A few years ago, a great deal of stress was placed upon the coaching of laggards, and in many school systems such adjustment is the only one officially recognized. The supervised-study movement has much of the individual-instruction idea involved. At the present time, however, stress is being put upon the type of individual instruction that is becoming the basis for such types of school organization as the Dalton plan and that developed in the public schools of Winnetka, Illinois.

The chief characteristic of this last type of individual instruction appears to be that assignments are given to individuals rather than to classes as a whole, that the assignments are written rather than oral, that the assignment covers a comparatively long period of working time, and that, within limits, the pupils

are allowed to progress at their individual rates. The curriculum may or may not vary for individuals. The work may or may not be departmentalized. The pupils may follow a common schedule if in the elementary grades, or a permanent individual schedule if in the junior or senior high school. All those in a given subject may meet as a class but work as individuals in the time allotted, or the teacher may keep open house, permitting pupils to come and go at will. The amount of time spent in class work, or in conferences with the teacher, may vary.

Illustrative assignments obtained from a school using individual instruction follow:

*Illustrative Assignment I:*¹ Note in the following that the work is divided into units of different time lengths. Unit 1 was supposed to operate from December 2 to 4, Units 2 and 3 from December 4 to 14. Note also that two practice tests are included. All pupils in this instance were given the final test on the same day.

UNIT 1 — DECEMBER 2 — ASSIGNMENT V-A — GRADE 6B

Climate (Temperature)

You have often read about the little Eskimo who lives in that portion of the earth where it is usually very cold, where there is much snow and ice, and where the big polar bear (like the one at the Zoölogical Park) lives. In this land of the Eskimo it is very cold.

You have also read about Egypt, where the big pyramids were built for tombs so long ago. There it is always hot.

You can think no doubt of people who live in places that are very different from the cold Eskimo country and hot Egypt. Our own region, for example, is warm in summer and cold in winter. Have you ever wondered why? There are three factors that make these differences in the climate.

Problem — What are the three factors?

Look on the maps on page 254, Brigham-McFarlane, *Essentials of Geography, Second Book*. Note the key to the colors used. Key is in lower

¹ This assignment and Assignment II were developed under the supervision of A. J. Stoddard, formerly Superintendent of Schools at Bronxville, N. Y., now Superintendent of Schools at Schenectady, N. Y.

left corner of map. If you do not know how to interpret the map, please ask for help.

From this map find the temperatures for the following countries for January, figure 365, and July, figure 366. Write your findings on our 9 × 12 paper in table form as follows:

Country	January	July
Brazil		
Argentina		
Italy		
Northern Alaska		

From map on page 256 find the mean annual rainfall of the following — (Brigham-McFarlane, Second Book).

1. New York
2. Northern Canada
3. Africa (northern)
4. Italy
5. Brazil
6. Northeastern Argentina

Look at the map on page 18, figure 33, in Brigham-McFarlane, Second Book. Find what winds blow over —

1. United States
2. Brazil
3. Argentina
4. Canada
5. Italy

The maps you have examined illustrate the three factors that determine the climate of any region.

The three factors of climate are _____, _____, and _____.

Read paragraph 24, page 16, in Brigham-McFarlane Geography, Second Book. Does this paragraph verify or prove the statement above? Copy the sentence from this paragraph that you might use as proof.

UNITS 2-3 — DECEMBER 4-14

Temperature

The first factor of climate is temperature. Temperature is measured by an instrument known as a thermometer. You, no doubt, have one at your

home. We have one in this room. It measures the heat of the air. There are two kinds of thermometers that are much used. One is called Centigrade and the other Fahrenheit. In our country we use the Fahrenheit; therefore the readings of temperature are usually recorded with an "F" following the number, as 45° F. The little "o" stands for degrees.

The following table shows the temperatures for the places listed. Locate these places as to their latitude. Copy table as given here and place in the latitude.

PLACE	TEMPERATURE	LATITUDE
Para, Brazil	79.5° F.	
Asuncion, Arg.	71.7°	
Tucson, Ariz.	68°	
New Bedford, Mass.	48°	
Punta Arenas	43.3°	

How do the temperatures and latitudes compare? Make a statement concerning the fact you have learned from the above table. Paragraph 25, page 16, Brigham-McFarlane Geography, Second Book, will give you help.

Problems to be solved (drill ex.)

Make a statement for each of the following places as to the kind of temperature you would expect to find there. Use word hot, cool, cold.

	<i>Latitude</i>
1. Para	1° 30' S.
2. Buenos Aires	35° S.
3. New Orleans	30° N.
4. Quebec	47° N.
5. New York	41° N.

Latitude alone does not determine the temperature, as is shown by the following comparisons.

Problems to be solved

Para and Quito are located near the same parallel and yet their temperatures differ.

	<i>Latitude</i>	<i>Temperature</i>
Para	1° 30' S.	79.5°
Quito	0° 14' S.	56.3°

The same is true of —

Denver	39° N.	49°
Cincinnati	37° N.	53°

and also of —

Buenos Aires	35° S.	62°
Santiago	34° S.	57°

There is a reason for this difference in temperature. The physical map on page 220, Brigham-McFarlane, Second Book, will help you find the reason. Use key in lower right corner of map to compare elevations. Copy the following table and record the elevations.

PLACE	LATITUDE	MEAN ANNUAL TEMPERATURE	ELEVATION
Para	1° 30' S.	79.5°	
Quito	0° 14' S.	56.3°	
Buenos Aires. . .	35° S.	62°	
Santiago	34° S.	57°	
Denver	39° N.	49°	
Cincinnati	37° N.	53°	

Examine the above table and tell what the second agency is that determines the temperature. Read paragraph 26, page 17, Brigham-McFarlane, Second Book. Copy the sentence that gives you information that your conclusion is correct.

Drill Exercise

Having given the elevation and latitude of a place, determine the temperature. Use words, hot, warm, cool, cold.

PLACE	LATITUDE	ELEVATION (ABOUT)
1. Charleston	33° N.	500
2. Bismark	47° N.	1100
3. Vera Cruz	19° N.	400
4. Rio de Janeiro	22° S.	550

(Units 4 and 5 omitted)

UNIT 6 — DECEMBER 21

In planting trees in our orchards and parks the gardeners are careful to place the heaviest and the side with the greatest number of branches toward the west. In passing through a park, forest, or orchard you will observe that many branches point toward the east. At times the whole tree bends or leans eastward. In regions near the equator this is not true.

The reason for this condition will be found on the map, page 18, figure 33, Brigham-McFarlane Geography, Second Book. Write out your reason.

Make a list of five countries where this same fact might be true.

Look at the map again.

What difference would you expect to find in the torrid zone?

Read paragraph 29, page 18, Brigham-McFarlane, Second Book.

This lesson completes the study of temperature. From these lessons we have found that the four factors that determine climate are -----, -----, -----, and -----.

Tests December 22.

PRACTICE TEST ON TEMPERATURE

*Assignment II, Form A**

1. The three factors of climate are -----, -----, and -----.
2. The four factors -----, -----, -----, and ----- determine the temperature of any place.
3. Argentina has its ^{summer} _{winter} in January.
4. We use the ^{Centigrade} _{Fahrenheit} thermometer.
5. ^{Lower} _{Higher} latitudes are warmest.
6. My thermometer would ^{decrease} _{increase} as I went up a mountain.
7. ^{Sand} _{Water} heats more rapidly than ^{water} _{sand} does.
8. Arrange the following as to oceanic and continental climate

Hawaii	Denver	Cape Town
New York	Omaha	Bismarck
St. Louis	Rosario	Asuncion

* Assignment includes two practice tests.

9. The altitude of a place is 4000 ft., and latitude 2° S. What temperature would you expect to find? Warm, cool, cold, hot?

10. The winds over the United States have a general direction, blowing from the -----.

Illustrative Assignment II: This is another type of assignment. No time limits are indicated. Practice tests and keys are given. Only a part of the assignment is shown.

MATHEMATICS 8B — ASSIGNMENT II — A — B — C

Abraham Lincoln knew what it meant to save his earnings in order that he might get an education and make his way in the world. On page 150 read what he said about the secret of thrift.

In Assignment I, I told you that I would speak again of "The Magic Thrift Lamp." Professor Upton has written a letter about it which you will find in this chapter.

Read paragraph 61, then go to the State Bank and inquire whether their rules are the same as those stated on page 150.

Study carefully page 151. Answer the questions in italics, page 152. Work ex. 4, 5, and 7-10 on page 153.

D

Read about Chauncey M. Depew on page 154,¹ then study page 155, especially the example that is worked for you. Work examples 1 and 12 in *your notebook* just as the one done for you. Label each part.

Study page 156, including the footnote. Choose three problems from page 157.

* * * * *

N

BONDS FOR OUR NEW SCHOOL

When an individual wishes to borrow money he usually gives a promissory note. Payment of the note is assured by some kind of security.

When a *corporation* wishes to borrow money it usually issues bonds. A bond is a written promise by a corporation to pay a specified sum of money at a specified rate of interest on a specified date. The corporation gets people to give it money in exchange for these written promises, or *bonds*. This is called "selling bonds." Bonds as a rule are safer than stocks. On page 185 find out why.

Our Board of Education issued bonds to borrow money to build our new schools.

After studying pages 183-185, find out the amount sold for our schools and what is the denomination (face value) of each bond. The advertisement of the sale of the bonds will give you some interesting information. See the bulletin board.

What rate of interest do our school bonds pay? On what dates is the interest payable? Bonds usually have a long time to run, e.g., 5, 10, 15, 20, or 30 years. When do ours mature?

If you were purchasing a bond, would you prefer to have it run a long time, or would you wish to have it mature in a short time? Why?

Copy the following in your notebooks and fill in the blanks:

1. A bond is a _____ promise by a _____ to pay a _____ at a _____ on a _____.
2. The denomination of a bond is its _____.
3. The Board of Education issued bonds to the amount of \$_____.
4. The face value of one bond is \$_____.
5. Some of the bonds do not mature until _____.
6. The bonds were all _____ bonds. Some of them have been exchanged for _____ bonds.
7. The rate of interest is _____%.
8. The interest is payable _____ and _____.
9. The interest on our bonds for six months will be \$_____.
10. The interest on 25 bonds for one year will be \$_____.

* * * * *

R

Work the cumulative review on page 196. Omit No. 8. What is the correct answer for No. 9?

Study page 76 in review so that you will be able to read a gas meter. Put No. 1 in your notebook. Read the gas meter in your own house if possible. Review this assignment.

Check your notebooks to see that you have included work from Units (1) D, F, I, J. (2) M, N, O, P, R.

MATHEMATICS 8B — ASSIGNMENT II — *First Practice Test*

1. Divide each of these numbers by .02

20 2.0 .20 0.02 200

2. Find the date of maturity of a note dated June 15, 1924, due in 60 days.

3. What is the time from Nov. 13 to Jan. 18?

4. Mr. B. deposited \$850 in a savings bank which pays 4 per cent per annum interest, compounded semiannually. What was his bank balance after 18 months? Show your work.

5. Find the simple interest on \$800 for one year at $4\frac{1}{2}\%$. Find the compound interest, compounded semiannually, for the same time. Find the difference between the simple and the compound interest.

6. My morning paper gave the following in the N. Y. Stock Exchange Quotations:

Name of Stock	Sales	Open	High	Low	Close	Net Change
N. Y. Central	2300	107 $\frac{1}{8}$	107 $\frac{1}{4}$	106 $\frac{3}{8}$	106 $\frac{1}{2}$	$-\frac{3}{4}$

Explain fully what information is obtained from this line.

7. If Mr. A. bought 100 shares of this stock at the opening of the day, he would pay \$..... (Brokerage 12 $\frac{1}{2}$ cents a share.)

8. I sent a postal M. O. for \$50.50. Refer to the application blank and state how much I paid the postmaster.

9. The Italian lire is worth 19.3¢. When Antonio arrived from Italy he changed 200 lire into American money. How much did he receive?

10. Bonds for our new schools amount to \$..... The rate of interest is%. The denomination of each bond is The majority of the owners of these bonds must clip to collect their interest. The interest for 6 months on 25 bonds is \$.....

MATHEMATICS 8B — ASSIGNMENT II — *Key to First Practice Test*

1. 1000 100 10 1 10,000.

2. Aug. 14, 1924.

3. 66 days.

4. \$850 first principal

 .02

\$17.00 Int. first 6 months

850

\$867.00 Amt. after 6 months

 .02

\$17.34 Int. for second 6 months

867

\$884.34 Amt. after first year

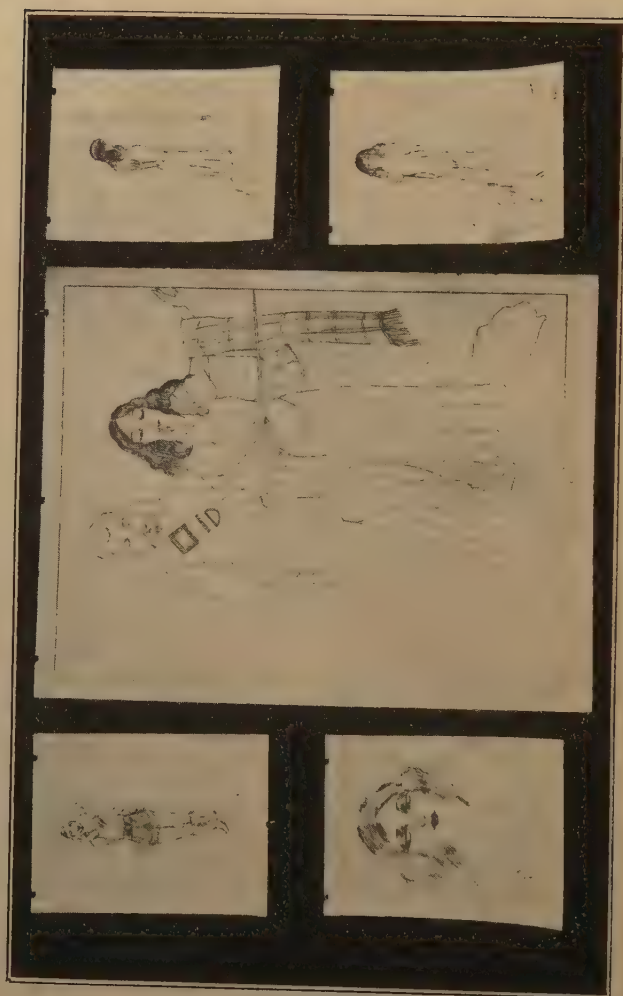
- $\$884$ Prin. for third 6 months
 $\underline{.02}$
 $\$17.68$ Int. for third 6 months
 884.34
 $\$902.02$ Amt. after third 6 months
 Bank balance after 18 months. Ans.
5. $\$800 \times .04\frac{1}{2} = \36 Simple interest for 1 year
 $\$800$ Prin.
 $\underline{.02\frac{1}{4}}$
 18 Int. for 6 months
 800
 $\$818$ Amt. for next 6 months
 $\underline{.02\frac{1}{4}}$
 $\$18.40\frac{1}{2}$ $\$18.40$ Int. for second 6 months
 818.00
 $\$836.40$ Amt. after second 6 months
 Bank balance at end of 1 year.
 $\$836.40 - \$800 = \$36.40$ Int. for 1 year
 $\$36.40$ — Compound Interest
 $\$36.00$ — Simple Interest
 $\underline{.40}$ — Difference — Ans.
6. Check from page 180.
7. $\$107\frac{1}{8} \times 100 = \$10,712.50$
 $\$12\frac{1}{2} \times 100 = \underline{12.50}$ Brokerage
 $\$10,725.00$ Cost. Ans.
8. $\$50.70$.
9. $\$38.60$.
10. $\$600,000$
 $4\frac{1}{2}\%$
 $\$1000$ Coupons $\$562.50$.

Other examples of individual instruction materials and methods have been given in Chapter VI.

Individual instruction and individual needs. — There is danger of taking the terms individual instruction and individual adjustment as synonymous. As a matter of fact some of the outstanding claims that are made for some school organizations are based upon the individual-instruction effects upon all the children, not upon individuals that have special needs not

ILLUSTRATION 20

BEGINNING OF AN INDIVIDUAL PROJECT IN FREEHAND DRAWING TO ILLUSTRATE SCOTT'S
 "LADY OF THE LAKE." Breed Junior High School, Lynn, Massachusetts.



(Facing 353)

Broader school opportunities reach the abilities and interests of more boys and girls.

common to the whole group. For example, one of the claims for the Dalton Plan is that it teaches children to budget their time. This may be a result of individual instruction, but it is by no means an individual adjustment in the sense in which we have used it, except as any broadening of the scope of the school activities tends to meet the special needs of some children. We are interested here only in the appraisal of individual instruction as an adjustment to individual needs.

There are certain adjustments that arise directly from individual instruction. If we may take the examples given above as representative of individual instruction, the only adjustment that appears to be inherent is adjustment in time taken to perform any given activity, and, inasmuch as sufficient mastery is required to pass the final test at the end of the period, there is an automatic adjustment in amount of drill or study to the ability and previous training of the individual. Such adjustments are given in our list on pages 262-264 as follows:

1. Assignment of extra drill.
3. Retardation — (but not selective).
7. Minimum amount of drill or study assigned and minimum amount of time allowed when able pupils are not expected to exceed standards set for average pupils.
12. Acceleration — (but not selective).
18. Make-up work necessitated by failure or absence.

In the case of retardation the results of this plan are in opposition to the principles given in Chapter V. There is the danger in the overstressing of the mastery theory of the common curriculum that many pupils will complete the years of schooling with a mastery of some things that may be non-essentials compared with some of the things they have missed because of retardation. For examples go back over the elements given in these sample units and ask these questions about any of them:

If the pupil failed to master this unit at the present time, would it impair his later progress? Would he probably never

learn the fact or skill involved? Is this particular unit of such importance as to justify retardation for lack of complete mastery? Is every assignment a teacher devises of sufficient importance to demand absolute mastery?

The answer that would come from those who see special educational significance in mastery in itself, might be perfectly correct, but it would not have a bearing upon meeting unique needs of individuals. It would be an answer in terms of a process that is supposed to give every one something. It would be comparable to learning to budget time in the Dalton-Plan school.

In the case of acceleration, also, the individual-instruction plan is not self-selective. It is beautifully adapted to giving acceleration to pupils without the bother of skipping and make-up demanded by the traditional elementary school, but it does not differentiate between those that should and those that should not be accelerated.

In addition to these direct adjustments there are certain adjustments that do not come automatically from individual instruction but are facilitated by it to a greater or less degree. If pupils who need certain types of adjustments are located by the methods discussed in the earlier chapters of this book, the individual-instruction technique can adjust the work to them almost as easily as it can give them the normal curriculum. The adjustments numbered 2, 9 (Grades 1-8), 10, 11, 22 (Grades 1-7), 24 (Grades 1-7), 25 (Grades 1-7), are such adjustments. The individual-instruction plan contributes little or nothing to the ease of discovering the need of these adjustments, or the preparation of materials for meeting them, but the greater flexibility of the school day makes their programming easier.

There is a further adjustment facilitated by individual instruction that is of prime importance to the small high school. Through individual instruction, courses of study which would be too costly for the small school to introduce may be made available to students. Such small schools as those described by

Rufi¹ find it difficult enough to do successful work in the narrow curriculum designed for a selected group. Measured as to the adequacy of educational opportunities for meeting the needs of boys and girls of secondary-school age, they fail miserably, regardless of the quality of work done in the traditional curriculum. The most promising route of such small schools to a sufficiently broad curriculum is by way of individual instruction. There seems to be no reason why such schools should not take advantage of courses developed by correspondence schools and the extension departments of colleges and universities. As a matter of fact, this type of service might well be developed by state departments of education as a service to small schools throughout the state. Some steps in this direction have already been taken by public schools. A part-time school in an eastern community makes available to its students a half dozen courses which could not be offered on the class basis. Individual materials provided by the correspondence schools are used over and over. With such devices operating, there would seem to be no reason why a small high school should not offer as varied a curriculum as is needed to meet the needs of its boys and girls.

This advantage is not limited to the small high school. Every school has certain courses which have such small enrollment as to make class instruction costly. For many years high schools have used a type of individual instruction in meeting this problem. Woodworking, mechanical drawing, and other courses that are operated on the individual-project basis are examples. The writer recently visited, in a high school, a freehand-drawing class of thirty students who varied in their development all the way from beginning to fourth-year work. At the cost of one sixth of a teacher's time four years of instruction were being offered. Had these students been grouped by grades, their instruction would have required two thirds of a teacher's time.

¹ Rufi, John, *The Small High School*, Bureau of Publications, Teachers College, Columbia University.

PROBLEM 26

THE WINNETKA TECHNIQUE

How well is the Winnetka Technique adapted to meeting individual needs in the elementary grades?

The following are the main features of the Winnetka Technique as given by Carleton W. Washburne, in the *Twenty-Fourth Year-book of the National Society of Education*, Part II, pages 79-82.

The curriculum is divided into two parts. One part deals with knowledges and skills of which every one alike needs mastery. The other part provides for each child self-expression and the opportunity to contribute to the group something of his own special interests and abilities.

Under the first head, come the common essentials — the three R's and similar subject matter. Every child needs to know certain elements of arithmetic, needs to be able to read with a certain speed and comprehension, needs to spell certain common words, needs to know something about those persons, places, and events to which reference is constantly made. Since every child needs these things, and since every child differs from others in his ability to grasp them, the time and amount of practice to fit each child's needs must be varied. Under the old régime, in the effort to give different children the same subject matter in the same length of time, the quality of the children's work, the degree of their mastery, varied from poor to excellent, as attested by their report cards. But under the Winnetka technique of individual education, instead of quality varying, time varies: a child may take as much time as he needs to master a unit of work, but master it he must. The common essentials, by definition, are those knowledges and skills needed by every one; to allow many children, therefore, to pass through school with hazy and inadequate grasp of them, as one must under the class lock-step scheme, is to fail in one of the functions of the school.

The part of the curriculum which should provide self-expression and group activities is quite another matter. Here there is no common skill or knowledge to be mastered. Here each child may legitimately differ from his neighbor in what he gets from school. It is the school's job to provide opportunities for his special interests and abilities to develop. In this field, education recognizes the importance to evolution of the law of variation and therefore takes full advantage of children's differences. The children must learn how to make up for their weaknesses by using the strength of

others and how to contribute their special abilities to the undertakings of the group.

To provide for both of these main divisions of the curriculum, half the morning and half the afternoon are given over to individual work in the common essentials, while the other half of each session is given to group and creative activities.

During the time devoted to individual work in the common essentials every child does his own job. If one steps into a "*fourth-grade room*" for example, he may find each child doing a different thing. One is just finishing third-grade arithmetic, another has begun compound multiplication, another is in the middle of long division, while still another may be beginning fifth-grade work in fractions. A child may be doing fourth-grade arithmetic during one period, but a few minutes later, in the same room, be doing fifth-grade reading.

There are no recitations. Each child prepares a unit of work, checks his results with an answer sheet, and goes on to the next unit. When he has done a small group of units — an amount of work which may have taken him three days or two weeks — he tests himself on this group: if he finds that he has mastered it, that his practice test is 100 per cent right, he asks the teacher for a real test. This test the teacher corrects. If it is not 100 per cent, the child practices again on the weak points shown by it, then asks for a re-test. When he shows the teacher that the group of units (called a "goal" in Winnetka) is mastered, he works on toward the next goal.

The teacher, under this plan, spends her whole time teaching, not listening to recitations. She helps an individual here or a group there; she encourages and supervises. She is about among the children as they work, not at her desk.

No child ever "fails." Nor does one ever "skip a grade." If in June a child has not finished his grade's work, in September he goes on from where he left off. If a child can do more than a grade's work a year, he does so — but he does *all* the work, without skipping any. The child is on a piece-work basis, not a time-work basis. He gets the habit of mastering each thing he undertakes.

During the half of the morning and half of the afternoon devoted to group and creative activities, the children are not working toward any set goals, nor are they tested. Going into one of the rooms during this part of the day, one may find the children dramatizing a part of their history work. Perhaps they are putting on a very informal impromptu dramatization, or perhaps they are preparing a more elaborate one which may be presented to the school as a whole during assembly.

The assembly is a sort of open forum. One day it may be a program planned by the children and entirely conducted by them. Another day it may be a business meeting in which all the local school affairs are discussed and worked out by the children themselves. It is interesting to see a third-grade child presiding over an assembly of two or three hundred of her school mates, in good parliamentary form, and entertaining notions regarding such things as whether children should ride their bicycles on the playground or whether snowballing on the playground should be permitted.

Every child in the Winnetka schools has an opportunity to serve on some committee. These committees manage all the student activities. They are usually made up of representatives from each classroom. They are sufficiently numerous to provide a place for every child. In one school, for instance, there is a committee on assembly programs, a committee on care of school grounds, a committee on the care of plants in classrooms, a committee on the toilets, a committee on playground rules, and so on through the gamut of school affairs.

It is during the group and creative-activities part of the day that the Winnetka children have their field trips; that one room may entertain another; that creative work is done in art and in shop work, each child making the thing which he himself wishes to make. It is during this part of the day that the children issue their school newspaper, articles to which are contributed by children from the first grade up. The editing, typesetting, proof reading, and business management of the newspaper are in the hands of the seventh- and eighth-grade junior-high-school children, who carry a real commercial account in one of the Winnetka banks, and pay all their bills with checks.

It is during this freer part of the day that children learn how to fit their interests and abilities in with those of others, to coöperate, to participate in the activities of the group. At such time they learn to merge their personal interests in the welfare of the whole, and they learn to contribute their special abilities to this group welfare.

By providing flexibility of time for the mastery of common essentials and by providing opportunity for children to exercise and use their different interests and abilities, the Winnetka schools are adapting the curriculum to the individual differences that exist among children.

The Winnetka Technique for the elementary grades calls for a broader curriculum and introduction of individual instruction, but not for departmentalization of instruction.

Assignment: 1. From our consideration of individual instruction and of enrichment of the program, what adjustments (pages 262-264) to individual needs would be automatically met by the introduction of the Winnetka Technique?

2. What other adjustments would it facilitate? What would be necessary to bring about such adjustments?

3. In what ways would this plan reduce the task of diagnosing individual needs?

PROBLEM 27

THE DALTON PLAN

How well is the Dalton Plan adapted to meeting individual needs of pupils?

Following are the main features of the Dalton Plan, as given by Helen Parkhurst in the *Twenty-Fourth Yearbook of the National Society of Education*, Part II, pages 84-92 (copyright reserved):

There are but three fundamental principles, viz., — First, Freedom; Second, Coöperation and Interaction of Group Life, or Community Living; and Third, The Proportion of Effort to Attainment, or Budgeting Time. Principle One is common to many education experiments as a prerequisite and it has had many advocates. By "freedom" I mean freedom to work without interruptions in order to pursue an interest and in order to develop concentration. As applied to an individual, it is understood to mean that he is to be freed from those habits or conditions which enslave his life or impede his complete development.

In the use of Principles Two and Three, the laboratory plan, now known generally as the "Dalton Plan," antedates other educational experiments. These two principles are therefore to be considered as the plan's contribution to educational procedure.

Theoretically, there is "nothing new under the sun"; and practically, the only new thing in the Dalton Plan is its departure from old school practices and the new procedure instituted to introduce the second and third principles into the school.

It may be well to note how the second principle, i.e., the interaction of group life or community living, is brought about. Instead of the usual grade rooms and grade teachers, we have subject laboratories and specialists; instead of confining the pupils of a single grade to one room, the pupils of four or five grades have access to as many laboratories and are permitted

to go from subject laboratory to subject laboratory, *mingling and living*, within the school, while engaged in school pursuits, just as the community outside of school lives and works. It is impossible for an individual pupil, an individual teacher, or an individual class under the Dalton Plan to live independently of others. Here we put in operation Dewey's theory that "A democratic education is not merely to make an individual an intelligent participant in the life of his immediate group, but to bring the various groups into such *constant interaction* that *no individual, no economic group, could presume to live independently of others.*"

Every school has a stated amount of time in which to do a given amount of work, and so, in accordance with the third principle (proportion of effort to attainment, or budgeting of time) we map out the work for each class in the form of a job and permit individual pupils to budget the time allotted for a month (laboratory time) according to the demands of their individual needs and difficulties.

Under these principles, the Dalton Plan creates new conditions of school life in which the pupils, to enjoy them, involuntarily function as individual members of a social community. A pupil forms the same kind of relationships in his school life that he will afterwards meet in his business or professional life.

* * * * *

Under the Dalton Plan, the pupil is given his work in the shape of a series of related jobs. The work of any job is very carefully outlined, sometimes by the teachers, often by the pupils, depending upon the kind of school. Each job corresponds to what can easily be done within a school month of 20 days. The number of jobs outlined for a school year depends upon the number of months comprising the academic year of the school using the plan. Thus, the number varies from eight to ten jobs.

The Dalton Plan is applicable to any part of the school above, and beginning with, the fourth grade. The fourth grade is taken as a starting point because pupils of that age and of that stage supposedly have the tool subjects sufficiently well in hand to enable them to work independently and easily.

A single job may be the working out of a single idea, or each job may be made up of a collection of correlated assignments of work. In a school where, say, five subjects compose the curriculum, if the work is to be arranged in jobs, work would be outlined in advance to cover a 20-day period, and work sheets or procedure sheets (assignments) would be made out to show a pupil how to attack each subject. Individual copies of these work sheets (assignments) would be given to each pupil.

* * * * *

A morning in a Daltonized school is divided into two short periods and one very long period, viz.: first, an organization period lasting from 15 to 30 minutes; second, a laboratory period from two to three hours, and, preferably at the close of the morning, a conference period lasting 30 to 40 minutes.

The Dalton Plan does not prescribe any set amount of time for "laboratory time," but it is suggested that, whenever possible, three fourths of the morning time be made available for this purpose.

Let us say that a school sets aside three hours as laboratory time; then, in a school month of 20 days, a pupil's laboratory time would approximate 20×3 hours, or 60 hours. Each pupil, therefore, would have at his disposal 60 hours in which to do his 100 units of work. This 60 hours is budgeted by each pupil to serve his individual needs, and *definite instruction is given as to how to budget time*. If a pupil does the entire job (100 units) in less than 60 hours, he immediately proceeds with the next job. There is no waiting for slower pupils nor are slow pupils rushed along at an accelerated rate or carried by the momentum of the class, producing inaccurate, slovenly work; nor would a slow pupil have to finish in 20 days. *He may have more time whenever necessary*; nor is a 20-day period supposed to coincide with a series of school or calendar months. A pupil counts "one" as his first work day, and so marks his work graph. "Two" is his second day, etc. Absent days are not counted. We go from 1 to 20, because work is set on a 20-day basis.

If a school desired to devote to English the equivalent of 40 minutes a day as a minimum, then the English teacher, in mapping out his work, would guard against outlining more for 20 days (20 units) than could be done by a slow pupil in 20×40 minutes, or 800 minutes. We go further, for we make weekly divisions. These weekly divisions do not block a pupil's interest or retard his progress; they are psychological divisions rather than actual stop signals; they merely indicate to the pupil that a fourth of any subject of the job is completed and put behind him. In the particular subject mentioned, English, the teacher's "time-set" for a week would be 5×40 , or 200 minutes.

A pupil may do all of his work, subject by subject, one subject at a time, or a little of one and much of another. He is free to plan his own time and discover his own better methods of work. The reason for a "time-set" should be made clear. It is to make sure that the job set for 60 hours can be done, by a slow pupil, in that time.

* * * * *

During laboratory time, pupils are encouraged to work together in grade groups according to the demand or through the medium of the assignment. If, for instance, a fourth-grade pupil entered a laboratory, while there, unless he was confronted with a special piece of work which could only be done by working alone, he must work in that part of the room set aside for his grade. This grouping encourages discussion and debate, and gives a line of direction to conversation which might be promiscuous if the pupils had nothing in common. Before pupils leave a laboratory, they record their progress on their individual job graphs, also on the instructor's graph, which is to be considered a class-progress graph. The class-progress graphs show an instructor where each individual of a class is in his work at any time.

The last half-hour of the morning (forty minutes in some schools) is designated as "conference time." The pupils who met at "organization time" now meet again for a conference — that is, they confer together over a specified part of the job, according to a posted conference schedule. Monday a grade may meet in geography, Tuesday in history, Wednesday in English, Thursday in science, and Friday in mathematics. During this time, debates, reviews, reports, etc., are given — anything which relates to the subject for which the pupils are called in conference.

These conferences, coming once a week as they do, are not considered as a time for presenting new material. They are too infrequent for that purpose. Presentations of new material are scheduled on a "Presentation Bulletin Board," and are at the call of the teachers, who schedule special calls or classes in accordance with the progress and need of individuals or groups. These appointments are classified and posted under grade headings. They are posted in the morning before the pupils arrive, so that, upon arrival, each pupil makes a daily memorandum of the engagements he is to have with his instructors. He takes these interruptions into account at organization time when planning his day. In this way, a teacher may call together several individuals, or an entire class, as often as necessary, as determined by the need of a subject. Here the only restriction is that there shall be no more than two "special presentation conferences" scheduled for any single grade in the course of a morning, and that the first notice posted shall have preference. This may make it necessary for a second instructor to change the hour of his appointment. Whenever an entire class is called, a sign is put on the laboratory door saying: "This laboratory is closed." All others than the class called are expected to "stay out." This is to avoid interruptions. When small groups are called, the laboratory remains "open" to capacity. To avoid crowding, a capacity limit is set

for each laboratory, i.e., a number indicating capacity is posted on the door. If an instructor desires to take some grade on an excursion to a museum or industrial plant, lasting an entire morning, a notice is posted for that grade, telling the time, the meeting place, etc. The instructor puts up the "Closed Laboratory" sign and is off with the pupils.

The Dalton Plan demands individualized and departmentalized instruction but not an enriched curriculum.

Assignment: 1. From the discussion of departmentalization and of individual instruction, what adjustments to individual needs (pages 262-264) would be automatically met by the introduction of the Dalton Plan?

2. What further adjustments would be facilitated by this type of organization? What would be necessary to bring about such adjustments?

3. Can periodic diagnosis of individual needs be dispensed with where such a plan is in operation?

PROBLEM 28

THE CENTRAL CITY PLAN

What contributions to the individual needs of pupils are made by the Central City Plan?

E. L. Novotny, Superintendent of Schools, formerly of Central City, Nebraska, and now of Junction City, Kansas, has recently developed a modified individual-instruction plan that indicates one direction in which individual instruction may be developed. The following is a statement of the general features of the plan used in the junior-high-school and senior-high-school grades:

The contract system of teaching is based —

1. Upon the accepted idea that no two children are alike. That they differ vastly in the number of talents and the type of talents and also in temperament, imagination, determination, initiative in various environments, in types of intellect, etc.

2. That if we are going to educate the individual within the group it will be necessary for us to adapt the work to him in such a way as to challenge his interest or interests and give him an opportunity to exercise the one or many talents in an environment similar to the environment in which that talent is to function.

3. That if we are going to take care of the individual differences it will be necessary for us to extend our assignment from the single daily unit, to a unit covering a period of from 3 to 6 weeks, and that this assignment shall be made up of several levels so as to take care of the varying abilities of students.

4. That in every subject the pupil should master something. Whatever he is to master will be found in the various levels of the assignment.

The following is an assignment sheet in American History:

UNIT I — 3 WEEKS

An old world, seeking a readjustment of its stifled commerce, stumbles upon a New World.

* * * * *

Let us participate in this romance of Our Country, this story of lights and shadows.

* * * * *

Guidance Outline

I. THE PERIOD OF DISCOVERY

(Setting of the stage)

Contract C (70%)

Factors Affecting American History

1. What is your judgment as to the importance of the Norse discoveries?
 - a. Brave Lief and Vinland.
 - b. Permanency of settlement.
 - c. Effect on southern Europe.
2. If you had lived in the 15th century, what would have been your conception of the world and of commerce?
 - a. Geographic knowledge then.
 - b. Ancient trade routes.
 - c. Geographical influences on trade.
3. Give a Genoan professor's monologue on "Why we must immediately find a route to India."
 - a. Effect of the Crusades.
 - b. Renaissance.
 - c. Capture of Constantinople effect.
 - d. Moving trade centers.

Discovery and Exploration

4. If you were a biographer of Columbus in what way would you say he contributed to the world?
 - a. Early life.
 - b. Attempts at aid.
 - c. Voyages.
5. Forecast the effect of the geography of the New World on (1) colonization, (2) industrial history.
 - a. Atlantic coast, north and south.
 - b. Soil, north and south.
 - c. Appalachian Mountains, north and south.
 - d. Rivers and river valleys.
 - e. Natural resources.
6. How do you rank the importance of the forces of religion, trade, adventure, and patriotism as influences upon the exploring nations?
 - a. European background (for 1-7).
 - b. Advantages and disadvantages of the nations.
 - c. Motives of the nations.
7. How do you think the explorations of the 16th and 17th century influenced the rate and character of the opening of the New World?
 - a. Spanish explorations.
 - b. French explorations.
 - c. English explorations.
- *8. "How Europeans Claimed America." Show on map the explorations, dates, nationalities of the leading explorers of this period.
- *9. Route the "Trade Routes of the 15th Century" on map; routes from Mediterranean east, across western Europe, the leading commercial centers.
- *10. Make a time chart of important events from 1400 to 1700.
- *11. "The most important geographical fact in past history of the United States has been its location on the Atlantic opposite Europe." — Explain.

Contract B (15% — any two)

1. "How the World Enlarged" — map of world voyages from Diaz to Drake.
2. Collection of Old World maps (ancient).
3. The honor due Amerigo Vespucci — short explanation from notes and bibliography.

* Work out any one.

4. Original piece of work and bibliography on the natives found in America.
5. Cartoon the defeat of the Spanish Armada from English viewpoint or from Spanish.
6. A dialogue between Columbus and Prince Henry.
7. Model Columbus's flagship.

Contract A (10% — any one)

1. List and describe early improvements in navigation and compare with to-day. Bibliography.
2. Memorize a poem on the period.
3. Plan a high-school program for Columbus Day. Have all material collected. May be worked out on a slogan or central-idea theme.
4. Make a model of a sixteenth-century Spanish cavalier costume.

Contract Plus (5% — any one) — may follow C, B, or A

1. Read the source material in Muzzey, Caldwell, and Pershing and write out your reaction.
2. Read one of the following and write out summary:
 Ballantyne: "The Norsemen in the West."
 Cooper: "Mercedes of Castile."
 Tourgee: "Out of the Sunset Sea." "Flamingo Feather."
3. Read biographies of any two important men of the period and make five important statements concerning each.

Important Event Dates

1000, 1453, 1487, 1492, 1497, 1498, 1521, 1534, 1565, 1588.

Important Personages

Columbus, Balboa, Cabot, Cartier, Coronado, Cortez, DeSoto, Drake, Magellan, Vespucci, Verrazano Champlain, Vasco da Gama, De Leon, Diaz, Narvaez, Prince Henry.

Assignment: 1. If this procedure (pages 363-366) were followed in each high-school course, what needs listed in the summary on pages 262-264 would be automatically met?

2. What contribution does the plan of having B and A contracts make?

PROBLEM 29

THE PLATOON SCHOOL

What does the Platoon Plan contribute to the making of individual adjustments?

The essential features of the Platoon Plan as given by G. W. Diemer in *Bureau of Education Bulletin*, 1924, Number 25, are as follows:

Platoon organization means, first, that administrative plan by which the school is grouped into two major divisions, and the program of work so arranged that while division A is doing work in the tool subjects, division B is doing work in the special subjects, and vice versa; second, that diversification and enrichment of the curriculum which permits more time and attention to the highly socialized, or expression, subjects. Diagrammatically represented, the platoon organization divides the school day into two equal parts as follows:

The school day — 6 hours

One half day to —

Reading, arithmetic, spelling,
language, and writing.

One half day to —

Citizenship (auditorium, social science), literature and library, music, art, nature study, manual arts, home economics, physical training, and extra-curricular subjects.

Diemer points out two advantages of the Platoon Plan that bear upon our problem.

Platoon organization, by departmentalizing the work in special subjects, makes it possible to have a specially trained teacher for each special subject, thus assuring a maximum of socialization so far as the teacher is concerned.

Platoon organization makes it possible to take care of individual differences. The child who needs additional time on the tool subjects may put in less time on the expression subjects. Likewise, the child who should be allowed to develop a special talent in music, art, or dramatics, can be given additional work of this nature with groups other than his own.

- Assignment:* 1. Which of the adjustments in the list on pages 262-264 would be automatically met by the Platoon Plan?
2. Which adjustments would be made more easily in the Platoon School than in the traditional school?
3. Which adjustments would be made more easily under traditional conditions?

PROBLEM 30

EXPERIMENTAL EDUCATION IN EUROPE

To what extent are experimental schools attempting to solve the problem of fitting organization to individual, as well as to common needs?

The following are listed as principles of *The New Education Fellowship*, which was founded by “*pioneer educationists* of England, France, Belgium, Germany, and Switzerland”:

1. The essential object of all education should be to train the child to desire the supremacy of spirit over matter and to express that supremacy in daily life. The new education should therefore — whatever in other respects may be the point in view of the educator — always aim at preserving and increasing spiritual power in the child.
2. Particularly should this aim be kept in mind in the sort of discipline applied to the child. The educator must study and respect the child's individuality, remembering that that individuality can develop only under a form of discipline which ensures freedom for the child's spiritual faculties.
3. All the education provided at the schools of the new type — whether it be for the purpose of imparting factual knowledge, or that of preparing the pupil for adult life by the development of character and right feeling — should give free reign to the innate interests of the child, i.e., those which come from the child himself, arising spontaneously within him. The school curriculum should always furnish an outlet for those interests, whether they may be of the intellectual, aesthetic, or social kind, or be the synthesis of all these which is found in properly organized handicrafts.
4. The Fellowship advocates individual self-discipline tending to self-government of the school community in collaboration with the teachers.
5. The spirit of selfish competition must be discouraged in every possible way by the new educational system, and the child must be taught to substitute for it a spirit of coöperation which will lead him to place himself at the service of the community as a whole.
6. The Fellowship advocates the coöperation of the two sexes both in and

out of class hours, whereby opportunity may be given to each sex to exercise to the full its beneficial influence on the other.

7. The new education rightly conducted on the aforesaid principles will develop in the child not only the future citizen ready and able to fulfill his duties towards his neighbor, his nation, and Humanity as a whole, but also the man conscious of his own dignity as a human being and recognizing the same dignity in every one else.

Assignment: Which of these principles offers little or no help in the organization of schools to meet individual needs?

PROBLEM 31

ADAPTATIONS IN SCHOOL ORGANIZATION TO FIT NEEDS AS INTERPRETED BY THE PRINCIPAL AND TEACHERS

What is a practical program for adjusting the school organization to individual needs?

A large city school enrolling 2400 pupils has adopted the following variations from the traditional procedure:

1. All children retarded two or more years are placed in special classes with a modified curriculum consisting of reading, arithmetic, and industrial arts. There are four such classes. They are divided into three groups according to age and achievement in school subjects. The upper classes are divided as to sex.

2. Remaining classes are grouped homogeneously according to ability. If there are five sections to a half grade, one group is left heterogeneous as a receiving class. Children coming into the school during the semester are put in this group and classified at the beginning of the next semester.

3. The lowest group are given a modified curriculum, adjusted to their needs.

4. The upper groups are given additional subjects: French, music appreciation, freehand drawing, and extra time in an excellent library.

5. In the lower grades these abler children are taught their regular work by the classroom teacher and are then given the extra work on a departmentalized basis.

6. In grades 5 and 6 there are six of the advanced sections (240 children) that have their work in arithmetic, English, geography, and history both departmentalized and individualized. Two rooms are set aside for English, two for arithmetic, and one each for geography and history. A half day is given to this work. In the afternoon departmentalized group work is carried on in drawing, physical training, music appreciation, and dramatic arts; the girls have cooking and the boys construction work, also. They have access to an excellent library.

In the individual work all children have the same number of assignments or contracts, but when the semester's work is completed before the end of the semester, additional work is given in the above subjects and additional free time given in the school library. Out of each 20 periods the child has 16 work periods, three recitations, and one test period.

Assignment: 1. What adjustments in the list given in Chapter VII, pages 262-264, would seem to be fairly adequately met by a thoroughgoing organization of this type?

2. What elements of the Winnetka technique are being used? Of the Dalton Plan?

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APPENDIX

AVAILABLE INDIVIDUAL INSTRUCTION MATERIALS

ALGEBRA

- C B A Hurdle Tests for Elementary Algebra. Rand, McNally and Co.
- Gonn lly, J. F., Huff, L. Grade, and Studebaker, J. W. *Practice Exercises in Algebra*. Index for set, 42 cards. Scott, Foresman and Co.
- Myers, G. C., Thomas, E. J., and Persing, K. M., *Work Book in Algebra*. The Harter School Supply Co., Cleveland.
- Nyberg, J. A., *Second Course in Algebra*. American Book Co.
- Sampson, C. H., *Practical Mathematics Practice Pad*. D. Van Nostrand Co.
- Schorling, R., Clark, John R., and Lindell, Selma A., *Instructional Tests in Algebra*. World Book Co. 52 exercises supplying material for daily d ill to enable students to obtain mastery of the important skills in Algebra.
- Smith, D. E., Reeve, W. D., and Morss, E. L., *Exercises and Tests in Algebra through Quadratics*. Ginn and Co.
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ARITHMETIC

- Benson, C. B., and Jensen, A. R., *Arithmetic Practice*. The Macmillan Co. Four pads.
- Burk, *Pupils' Self-Instruction Arithmetics*. For Grades 2, 3, and 4. Rand, McNally and Co.

- Buswell, G. T., and John, Lenore, *Teaching and Practice Exercises in Arithmetic*. Wheeler Publishing Co., Chicago.
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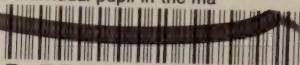
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